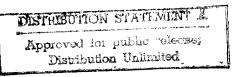
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JPRS-EER-86-060 17 APRIL 1986

# East Europe Report

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JPRS-EER-86-060

17 April 1986

# EAST EUROPE REPORT

# CONTENTS

## AGRICULTURE

GERMAN	DEMOCRATIC REPUBLIC	·
	Aspects of Microelectronics Application in Farm Sector Viewed (Hans-Rainer Nau, et al.; BAUERN-ECHO, 6, 13 Feb 86)	
GERMAN	ECONOMY DEMOCRATIC REPUBLIC	
:	Industrial Sifted Coal Use Increases (Adolf Weiher; PRESSE-INFORMATIONEN, No 11, 28 Jan 86)	
	Consumer Goods Production Tied to Central Planning, Combines (Hans Luft Interview; TRIBUENE, 31 Jan 86)	
	Retraining, Restructured Labor Tasks Aid Flexible Automation (Kurt Voelker; SOZIALISTISCHE ARBEITSWISSENSCHAFT, No 1, 1986)	. 15
	Practical Method Outlined for Applying Flexible Automation (Franz Pleschak, Klaus-Peter Sehmisch; SOZIALISTISCHE ARBEITSWISSENSCHAFT, No 1, 1986)	. 29
ROMANIA		
	Energy, Scientific, Technological Priorities Outlined (Mario Duma, et al.; ENERGETICA, No 12, Dec 85)	36
	Development, Problems of National Grid Networks Described (Mircea Ciobanu; ENERGETICA, No 12, Dec 85)	47

# YUGOSLAVIA

	Briefs Ship for Soviet Union	52
	POLITICS	
GERMAN	DEMOCRATIC REPUBLIC	
	Possible Sociopolitical Destabilization Discussed (Hans-Juergen Trommer; DEUTSCHE ZEITSCHRIFT FUER PHILOSOPHIE, No 3, Mar 86)	53
POLAND		
	Reportage on PZPR Viovodship Committee Plenum Meetings (TRYBUNA LUDU, various dates)	59
	Pila Plenum on Economic Plan, by Wladyslaw Wrzask Jelenia Gora on Education's Role, by Czeslaw Kubasik Koszalin Favors Stronger Socialist Education,	59 60
	by Eugeniusz Buczak	61
	Leszno Stresses Ideological Training	62
1	Bielsko-Biala on Economic Plan	63
DOMANT		%
ROMANIA		477
7	Briefs	
	Speculation in Cigarettes	64
		1 12
YUGOSLA	VIA	r e e
	Book on Kosovo WWII Fighters Criticized (TANJUG Domestic Service, 7 Mar 86)	65
	Background of Petition From Kosovo Polje Traced (Aleksandar Tijanic; NEDELJNE INFORMATIVNE NOVINE, 9 Mar 86)	67
	SOCIOLOGY	
	5001010001	111.
GERMAN	DEMOCRATIC REPUBLIC	
•	Church Youth Work Reported 'Quieter' (IWE TAGESDIENST, 8 Mar 86)	75
:		127 2

AGRICULTURE

GERMAN DEMOCRATIC REPUBLIC

### ASPECTS OF MICROELECTRONICS APPLICATION IN FARM SECTOR VIEWED

East Berlin BAUERN-ECHO in German 6, 13 Feb 86

[Article by Dr. Hans-Rainer Nau, Dr. Axel Poehls and Dr. Hans Nau of the Department of Animal Production and Veterinary Medicine at Humboldt University in Berlin: "Relationship Between EDP and Agricultural Enterprises"]

[6 Feb 86 p 7]

[Text] Following the two previous reports (see Nos. 22 and 25, 1986) in which the connection between scientific and technical advancement and the growing demand for information is described, and information is characterized as a major element of management, we now emphasize the relationship between EDP and the enterprise.

There is a causal relationship between scientific and technical advancement and the growing significance of what is happening in the information sector. From a historical point of view, the processes referred to correspond to the extremely rapid development of productive forces in the 19th century (the industrial revolution).

Since these processes reached the farm sector relatively late, more and more efficient methods of obtaining, storing and processing information were first developed and used in industry and administration, as well as in the military.

Naturally, the available output and potential uses of equipment based on an electromechanical principle of operation were limited. Only through the development of electronics and of microcomputer technology based on electronics was there a qualitative leap in this area.

Whole new vistas opened up and so today electronic data processing (EDP) is probably the most well-known and certainly also the oldest term for the manipulation of data using the modern calculation systems which we have come to know as the "computer" (from the English word "compute" meaning to calculate or count). Other terms have been added which initially do not seem so easy to categorize under EDP. Text and image processing, as well as process controls and process automation, are such categories. They indicate the vast number of tasks which can be performed by microprocessors, microcomputers, and personal and office computers.

Modern ESER (uniform system for electronic computer technology) computer technology has been available to the agricultural enterprise for quite some time. As can be seen in Fig. 1, it is centered primarily in the ORZ's (organization and computer centers) of the bezirks. The currently still dominant type of organization is shown schematically in Part A of Fig. 1. In this system, primary data is supplied by the agricultural enterprise on a contractual basis to the data acquisition center in the form of vouchers or cash register tapes. At the data acquisition center the data are generally copied onto machine-readable storage media. These storage media (punched paper tape, magnetic tape, etc.) are forwarded to the appropriate ORZ.

Based on the contractual agreements concerning the type, quality and number of tables of results produced by the ORZ, the agricultural enterprise is also supported in terms of the efficient application and effective utilization of EDP accounting and evaluation projects. Such projects (mentioned only, not discussed) as those involving materials accounting, animal and production accounting (MAWI), fixed assets accounting (GRUMI), evaluation of enterprise management (BA), etc., are well known.

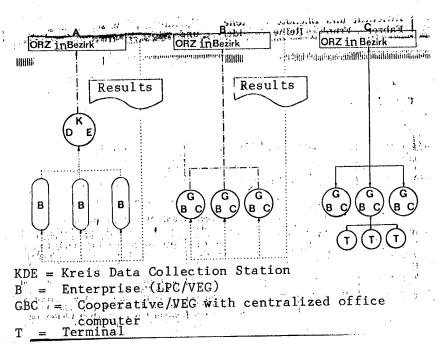
Data processing in the LPG's and VEG's, with regard to transferring information to the ORZ's, is still at times performed with the aid of the already mentioned precursors of EDP, i.e. older-model data processing machines. In the mid-1970's they were supplemented and/or replaced by electronic pocket calculators and programmable microcomputers.

Now more and more office computers and personal computers (OC's and PC's) are being used, as Fig. 1, Part B shows. New territory is now being developed both in terms of cooperation between LPG/VEG and ORZ--machine-readable storage media and checklists are already able to be produced within the enterprises-- and in terms of more rapid and more comprehensive utilization of the data or information obtained in the management process within the enterprise. So far, computer technology within the enterprise does not represent an alternative to the larger-capacity computers found in particular in the ORZ's. Above all office computers permit process-related, workplace-specific data processing.

In a union with centralized EDP systems—to be implemented in the near future—there will be significant progress in terms of making management—and information—related processes more efficient. This computer union could be organized as shown in Part C of Fig. 1. At this highest level (from the current viewpoint) of information exchange between agricultural enterprise and ORZ—the first results of practical experience within the national economy are already available by the way—different departments or sections within a single enterprise are linked to one another by means of a local access network (LAN) with a central office computer (e.g. Robotron's basic A 6402 computer system).

In this system the individual work stations have corresponding data entry equipment (terminals, office computers or PC's) which if the occasion arises permits a two-way exchange of information and the performance of calculations ("intelligent" terminals). The exchange of primary data and results between the agricultural enterprise and the ORZ could be substantially accelerated and

intensified by means of a computer link--a nationwide link between computer centers is also conceivable. At the same time the introduction of workplace-specific office computers opens up possible uses for EDP in sets of tasks and management positions which have up to now had very little or no contact with this modern form of data processing.



[13 Feb 86 p 7]

[Text] The relationship with regard to information between the enterprise and the ORZ, as described in the previous article, in the interest of greater clarity represents a simplification of existing or developing pathways of information. It must also be kept in mind, of course, that although data can indeed be more extensively processed, stored and used, and supplied in a more purposeful manner to the ORZ through the use of office computers in the LPG/VEG's and cooperatives, appropriate arrangements for preparing the information within the enterprises themselves are also necessary in order to be able to do so.

It is well known that primary data is generated in the stalls (e.g. daily and total amounts of milk produced per cow), in the fields (harvested area per unit time, etc.), in terms of technical data (e.g. diesel fuel consumption and the like)—in brief, at the point of origin, and the information system within the enterprise must take that into account. Consequently, it is necessary to gather the desired or required data accurately and enter it quickly into the computer; the same is true in the reverse direction, namely in terms of purposeful instructions to the labor collectives.

If we ignore this last-mentioned aspect initially and concentrate on the preparation of information and on "feeding" it to the computer, then it should first be pointed out that the need for accuracy with regard to precisely this information is enormously increased in every respect. This is an important reason why the use of modern computer technology has proven particularly effective, particularly in those LPG/VEG's which make extensive use of this available instrument of business management. Thus, the enterprises in question likewise achieve above-average results in the stalls and in the fields. Now they will be further improved by the decentralized type of computer technology being implemented--currently in such a way that proven methods can be applied even more effectively.

Also linked to this concept, however, is the fact that inadequacies in management, planning, organization and accounting are not only not eliminated merely by the use of a computer but rather are really first brought to light. To that extent the effective use of computer technology as described here first and foremost places greater demands on management activity, the effectiveness of which is vastly increased in turn by this same computer. Clearly delineated areas of responsibility, accurate weighing and measuring, order and cleanliness at each work station and comparisons of planned and actual figures are requirements which must be met if the computer system installed in the enterprise is to provide the anticipated benefit.

Initially it is immaterial whether the appropriate information is entered into the computer in the usual manner, e.g. using appropriate vouchers, or whether information supplied electronically via sensors or microprocessors is already supplementing the documenting pass. The partial elimination of written documents as the information carrier is certainly possible by connecting the above-mentioned electronic components to the com- puter. These subjects and principles of use are to be discussed in greater detail elsewhere.

Additional requirements of information-related processes within the enterprise arise in conjunction with the use of computer technology, in that only information which is available in the form of data can be entered into the computer. Data here means numerical (figures) and/or alphanumerical (letters) entries referring to the objects (e.g. tractors, animals) and circumstances (temperature measurements, scope of warehouse inventory, and the like) for which the data to be acquired is of a multi-level nature. Because awareness of the questions arising in conjunction with the conversion of information to data is relatively limited, but knowledge of such things is appropriate for creating greater understanding of computer technology and its use within the enterprise, a discussion in greater detail of the problems involved seems fitting.

It is assumed first of all that the data play an important role, though not an exclusive one, in the information-related processes within the enterprise. It is also immediately clear that agricultural entities (stalls, machines, animals, and the like) can be counted and categorized, whereby the counting process is of fundamental importance in automated information processing. In answer to questions which deal with far more than specific quantities, and in the process of agricultural capital replacement this is by far the more frequent occurrence, principles must be applied in which counting is used as an avenue to measurement. In other words, a cow cannot be measured directly;

only its characteristic features such as daily milk production and quality, fertility, development of body mass and the like can be measured. In certain respects with regard to these features, measurability is ranked in order of precedence; however, each of the features mentioned can definitely be measured.

In terms of the features and attributes which characterize or distinguish people, however, the situation with regard to measurability is different. Body size and temperature are clearly definable, and punctuality certainly is too; however clear determination, and thus measurement, of reliability, capability and the like is elusive. This is based among other things on the fact that all of the features and attributes which prove to be measurable involve at least two distinctive impressions. Reference to a stall temperature which is characterized as warm or cold or the fill level in a vessel which is characterized as high or low may indicate what we mean.

Classifications closely related to measurement are also frequently made. Examples of this include divisions according to male and female, full-time and part-time employees, skilled and unskilled, and overall it is clear that measurement is usually based on differentiated degrees of emphasis using numbers (or letters) based on specific scales (e.g. air-pressure gauges, thermometers) or criteria. This situation is very conducive to the use of EDP systems for processing information which can be measured or classified

Of decided importance is the fact that computers can be used to process only that information which can be converted or encoded in the manner indicated earlier in this report, and this is where the oft-mentioned field of information handling comes into play. It can be interpreted as the science of systematic, and in particular, automated processing of information using digital computers for which the creation of a body of information related to enterprise management may prove necessary.

Information which is not available in EDP-compatible form must be appropriately prepared and/or converted if it is to be entered into the computer.

Another problem in information conversion is maintaining the information important for management purposes on the one hand and filtering out unnecessary data (redundancies) on the other in order not to place an unnecessary burden on the storage capacity of the EDP system.

The examples given clearly show that gathering all of the production-related information in the form of data is either not technically feasible or of little value. On the other side of the coin, however, is the fact that in all areas of agricultural research, as well as in enterprise management, new contexts and influencing variables are continuously being recognized which are naturally expressed in terms of tying information together, thus also in the preparation of algorithms (computer programs). As a result of this data processing, new information is created which among other things is worthwhile to process. The process alluded to--creative effort by human beings using the computer--among other things forms the basis for computer-aided design and manufacturing (CAD/CAM). An example of this would be the computer-aided work

of technical specialists and designers in terms of repair work and production of the means for rationalization in agriculture.

Overall it can be said that the use of computers and ever greater control of the processes associated with them are capable of substantially improving the cost-benefit ratio within the enterprises. However, it cannot be emphasized often enough that at the same time the role played by the worker and his importance with regard to achieving higher production results and levels of effectiveness are expanding. In the final analysis it is the human being who sets the goals in the production process, determines the actions needed in order to achieve them and selects the appropriate methods and means for doing so.

12552

CSO: 2300/251

GERMAN DEMOCRATIC REPUBLIC

ECONOMY

INDUSTRIAL SIFTED COAL USE INCREASES

East Berlin PRESSE-INFORMATIONEN in German No 11, 28 Jan 86 pp 4-5

[Article by Adolf Weiher, department head in the Ministry for Coal and Energy: "Energy Combines Support the Production of Sifted Coal"]

[Text] The 1986 economic plan also poses the task to continue a further stable development of the energy and fuel basis of our republic based on domestic sources of energy. In this connection the increased and efficient use of domestic crude brown coal plays an especially important role. As practice shows, especially the use of crude brown coal lumps in sectional boilers and steel boilers with top burn-off as well as in flame tube boilers with plane grates contributes to releasing, or using otherwise, refined sources of energy, such as are brown coal briquettes. Therefore this coal is increasingly sifted from the coal flow. That is the origin of the term sifted coal.

Since such boilers are installed in many heat-generating installations of industry and agriculture, in the local area, in installations of public education and the health service, considerable quantities of brown coal briquettes can be saved if sifted coal is used in their place. But that is also possible in all sizable plane grate boilers, those are boilers with rigid grates, and in steam generators with movable grates. It is all the more important to make more sifted coal available. While the target in the 1984 economic plan was only 10.6 million tons, in 1985 it increased to more than 15 million tons. An additional increase is planned for this year. These quantities cannot be sifted solely by the collectives in the open-pit mines even though they provide the preponderant share. Here the active cooperation of the coal consumers in all industrial fields is needed.

The working people in the heating and power plants and in the heating plants of the energy combines of our republic make their contribution in this connection. As a result of the increasing establishment of sifting facilities it has been possible in the past 3 years to increase the production fivefold and make 412,000 tons available in 1985. Numerous consumers in the territory were supplied with these quantities. For 1986 they have pledged to sift 697,000 tons of brown-coal lumps.

From the beginning valuable assistance was provided by the working people of the VEB Waermeanlagenbau (Heating Installation Building), Berlin, a plant of the VEB

Kombinat Verbundnetze Elektroenergie (Electric Energy Grid Combine), for they offered the consumers of crude unscreened brown coal simple design solutions for construction of sifting installations on their own in a short time. They even developed a catalogue which provides information on the various technical approaches, contains references for efficient loading and presents sifting installations developed by other enterprises on their own initiative. This catalogue also provided important assistance to many energy combines for their own production.

Moreover, the rationalizers and innovators in the energy combines themselves developed manifold creative activities to accelerate sifted coal production. Thus, for example, colleague Peter Schille in the Karl Marx Stadt Energy Combine succeeded in designing an efficient sifting installation for the Karl Marx Stadt Heating and Power Plant in a very short time whose construction by the power plant he helped organize. It has stood the test under winter conditions very well.

Innovators in the Halle Energy Combine developed a circular vibrating impact screen for the Freiimfelder Strasse heating plant and a toothed roll for the Breitscheid Heat and Power Plant which were installed for the steam generation in the feed conveyor to the coal bunker at two different points. The coal sifted by the first more efficient toothed roll gets into the freight cars of the GDR railroad. The coal sifted by the smaller roll lying behind it is placed in intermediate storage in a special container, so that consumers can be supplied at any time independent of the feeding of the coal bunker.

This year the collectives in the heating plants and in the heating and power plants of the energy combines direct their initiatives especially at raising the efficiency of the existing sifting installations and at locating new installations so that the supply of the consumers can be guaranteed by the shortest route and the transportation costs decline.

12356

CSO: 2300/226

GERMAN DEMOCRATIC REPUBLIC

**ECONOMY** 

CONSUMER GOODS PRODUCTION TIED TO CENTRAL PLANNING, COMBINES

East Berlin TRIBUENE in German 31 Jan 86 p 11

[Interview of Prof Dr Hans Luft, research field director at the Institute for Political Economy of Socialism of the Academy for Social Sciences of the SED Central Committee, with Manfred Strzeletz of the TRIBUENE staff; date and place of interview not given]

[Text] [Question]: When economic problems are mentioned, the talk soon gets to consumer goods, a question with which many are again greatly concerned. Why?

[Answer] Consumer goods are necessities of life for everybody--for food, clothing, dwelling. They safeguard his physical strength and mental faculties, help to make his life easier and brighten it. More than 300,000 different items are offered as consumer goods in over 100,000 stores every day to the population. In 1985 the volume of goods exceeded M 113 billion.

[Question] Not everybody thinks of consumer goods in the same way. Perhaps a definition of the term would therefore be appropriate.

[Answer] Consumer goods are all articles of daily use which are personally used and needed by people, thus are individually consumed, namely insofar as they belong to the assortment typical of retail trade. Thereby not every consumer item need be obtained by purchasing it through the retail trade. For example, small gardeners can supply themselves with some items. Thus in the first place they are foodstuffs, beverages and tobacco and secondly industrial goods from clothing and shoes to furniture, appliances, cars, electronic equipment for the home and other durable industrial consumer goods, also tools for consumer demand, building materials and the like.

Dwellings--whether they are rented dwellings or privately owned dwellings--garden plots and other real estate, which also serve individual consumption are not included as consumer goods in planning and statistics, because they are part of the social infrastructure.

[Question] Since our society aims for constantly better satisfaction of the needs of the people...

[Answer] ...regards the SED, as set down in its program, "safeguarding a stable supply of the people with consumer goods on a constantly rising level as a first-rate political task."

Production and supply of consumer goods are very closely connected with the policy of the main task, the further increase of the material and cultural standard of living of the people on the basis of a high rate of development of socialist production, of raising efficiency, of scientific-technical progress and of the growth of labor productivity. Especially the full effectiveness of the performance principle, "Each according to his abilities to each according to his performance," as driving force for the increase of production and labor productivity requires that the growing money income of the people can be converted into the acquisition of the desired consumer goods and services. It must be possible to indulge oneself for what has been obtained by one's own labor, while, viewed socially, on the contrary to live well without work is impossible and contradicts the socialist way of living.

[Question] Thus here, too, the principle applies that it is only possible to consume what has first been produced. How is that meant: what the enterprises and combines can produce or what is in demand?

[Answer] Both, whereby the demand of the consumers, of the economy, and of foreign trade is, the important, thus in final analysis decisive, figure of planning, because production in socialism is carried on not for its own sake but for the sake of the constantly better satisfaction of the growing needs of the people. And because of the social character of both basic forms of socialist property in the means of production, what is important is the constantly better satisfaction of the growing demands of the entire people, of all citizens of the socialist state. Thus high demands were placed on consumer goods production so that the supply would not only be in accordance with demand but, as many combines pledged in the Party Congress initiative, also in numbers to meet that demand. Added to that is the foreign trade demand, for many GDR consumer goods enjoy great popularity also on the international market.

[Question] It is known from statistics that almost every GDR household has a washing machine, refrigerator, TV set and more than one radio. Why do we produce so many of them anyhow?

[Answer] The demand for durable consumer goods is affected not only by the existing equipment of the households but also the development of the replacement and additional demand. As an expression of the growing prosperity, in my opinion it is quite natural that more and more citizens of our country attach importance to a new, more modern consumer item before the old one is physically worn out.

In this connection, changes in demand always lead to different growth rates for certain assortments and within the individual assortments. Thus the law on the 1986 economic plan postulates: "The production of consumer goods, especially of high-grade industrial consumer goods, which embody scientific-technical progress in refining the material and in use value and stand out because of the degree of international novelty, is to be further increased."

[Question] What determines the wishesof the individual?

[Answer] The wishes of the individual, his needs are determined by age (a child's wishes differ from those of a grownup) and marital status, by the social-economic situation, occupational activity and qualification as well as by physical environment and leisuretime interests. The needs are increasingly determined by the rapid development of science and technology, such as by micro-electronics and not least by the goods offered in his own country and in other countries. Thus the needs of the individual are varied and differentiated and this range will increase with rising standard of living.

[Question] And if one wish is fulfilled, does it, so-to-speak spawn new ones?

[Answer] Exactly. Assured nutrition increases the need for highly processed foods, especially of animal origin, fruits and vegetables. Improved living conditions as a result of the generous housing program induce the need for furniture and other appliances. Interesting work creates the need for further education, more leisuretime the need for tourism and recreation as well as objects of leisure time activities, including such durable industrial consumer goods as TV sets, cameras, bicycles, musical instruments, sports equipment and the like. But a stable supply with basic requirement goods is always assumed, which also underscores the great importance of agricultural production.

Karl Marx, in his theory of surplus value said: "The satisfaction of one need makes another so-to-speak latent." In other words: The demands on the standard of living duplicate themselves under socialism at a constantly higher stage based on the achieved economic efficiency and the achieved level of supply—at the same time an important driving force for the development of production.

[Question] Does it always have to be the very latest development?

[Answer] That is undoubtedly left to the decision of each individual as a purchaser. But first of all the very latest must always be in the supply of the trade in numbers covering demand, and secondly traditional products with modern technologies are to be produced because, as a result, greater effectiveness is possible. Both belong together inseparably for the new stage of implementing the economic strategy of the eighties. And with the high rates of replacement as they are demanded for consumer goods production it is therefore important to better meet the higher demands on efficiency and total operating time, on the technical level and its ecologically beneficial nature and its attractiveness and its fashionableness.

As far as the latest technical level of consumer goods is concerned, the following aspect is to be considered. The fast rate of development and the manifold possibilities for employing the key technologies make it necessary that even the children get used to modern technology as early as possible because then they will be able to better master such technology in their work. An important step in this respect was the introduction of pocket calculators in school instruction.

[Question] In consumer goods, more than in all other products, we differentiate between durable and perishable ones. Aren't we occasionally too liberal with this classification?

[Answer] Here I cannot help recalling a saying on a sign at the entrance to Greiz in Gera Bezirk:

"Whatever Greiz weaves, whatever Greiz dyes, that will last until it is inherited by the grandchild."

This applies now in particular to qualitatively high-grade finished products even though fashion as an important factor for replacement of the production of consumer goods changes more quickly than in the past. But there is simply a difference in the total operating time, e.g., between textiles on the one hand and a car or the household durables mentioned in an earlier question, on the other hand, which, with many other consumer goods, are therefore referred to as durable industrial consumer goods.

[Question] Are the enterprises and combines traditionally producing consumer goods no longer able to satisfy all needs?

[Answer] Yes and no. In the case of textiles they have to meet the growing demand, for a machine building enterprise can hardly sew ladies' outer garments, but it can make means of rationalization available for that purpose. It is already different in the case of furniture. In shippards or in railroad car building enterprises, e.g. in Goerlitz, carpentry capacity for the production of long-range railroad passenger cars and parlor cars and thus appropriate occupational capacity is available which can and must be used also for the production of furniture assortments for consumer demand. Let us remember that with each new dwelling not only the immediate need for furnishings is created but also the demand able to pay for it owing to low rents.

[Question] Aren't the manufacturers of the means of production dissipating their efforts if they have to devote themselves additionally to consumer goods?

[Answer] As the examples show, there is no dissipation of efforts involved. On the contrary, science and technology become economically effective within a broader framework, at the same time over means of production and consumer goods. And resources in manpower and material saved by rationalization can be used more effectively, since most industrial consumer goods are highly refined products. Efficient consumer goods production belongs to every combine just as its own building of means of rationalization and also contributes to raising the efficiency of its reproduction process as a whole.

[Question] These are extraordinary demands, so-to-speak different categories of work are required.

[Answer] Big heavy machine building combines produce not only means of production, but, as SKET Magdeburg in the original plant, rolling mill equipment, oil mills, stranding machines for the cable industry and others. It is important that for the production of high-grade consumer goods meeting demand as well as important supplies in the combines producing predominantly means of

production, profile-determining product lines are being built up, which permit efficient production in large numbers of high-grade products based on raw materials and materials available in the GDR.

[Question] Scientific-technical progress constantly provides new findings. It is part of our economic policy that these findings become effective in production as quickly as possible. Does this also apply to the production of consumer goods?

[Answer] Even more so, to be able to supply the population with modern consumer goods. Of course, here not only the final producers but also the many subcontractors are confronted with the rapid and at times also surprising development of scientific-technical progress. Whether the quality of dyes and varnishes or textile fibers or the technical level of components, parts and assembly products are involved—the requirements are getting higher all the time. But the great effort to meet them in the interest of consumer supply pays off also under the aspect of mastering the challenges of the future.

The research and development potential is not neglected but is being prepared for even greater tasks posed to master the scientific-technical revolution in the future. The faster the production of one's own gets on the market with new products, the greater is the market's absorbing capacity and thus a higher effectiveness of the production because of bigger series is made possible.

[Question] If, as demanded, every combine of means of production is to make a great contribution to consumer goods production, isn't it hard to know what can be produced at all? How do these combines find out what is needed?

[Answer] First of all, each combine must give thought to the matter, conduct market research, work closely with the trade, for the consumers purchase neither percentages nor industrial goods production but always very specific products, which, as Karl Marx stated in "Capital," must stand the test as use-values before they can be realized as values.

[Question] And who coordinates that in the economy as a whole?

[Answer] Here, too, the principle of democratic centralism proves its value. For all economically important products lines, such as furniture, upholstery goods, cars including accessories, spare parts and supplies, motorcycles, bicycles, toys etc, the State Planning Commission performs coordinating work by central state planning in cooperation with the industrial ministries. The combines responsible for the consumer goods balances organize their production according to demand and the establishment of effective cooperation conditions. Finally there is a regional coordination by the consumer goods head offices with the bezirk planning commissions.

The more combines and enterprises are included in the production of similar assortments the more necessary is a purposeful organization of production and a meaningful specialization to ensure effective production according to demand. Thus a broad field of activity also develops for the product group work.

How correct the party's orientation on the production of consumer goods has been becomes evident also by the fact that the retail turnover in the case of industrial goods increased 5 percent in 1984 and 5.6 percent in 1985 and thus, after a number of years, once again faster than the retail trade turnover.

[Question] Isn't it true that the production of consumer goods is an ideal field for innovators?

[Answer] Of course, for what is decisive is always the own initiative of those who produce the consumer goods. I would like to support here the competition of ideas of the Chamber of Technology for new electrical and electronic consumer goods, for new household implements, new equipment for entertainment electronics, new products for leisure, sports and hobby, new accessories for car, motorcycle, motorbicycle and bicycle as well as for new toys. The competition is directed to all citizens of our country, skilled workers, foremen, engineers, economists, pupils and students, simply because world novelty, attractiveness, high use-value, quality and original ideas in general in consumer goods production are of concern to all.

But the most essential decisions are of course made in the combines and enterprises. And the importance to be attached to them was expressed by Erich Honecker at one of the recent Central Committee plenums: "If there is anyone today who regards the tasks of consumer goods production as a fifth wheel on the cart, he will have to comprehend quickly that this is a field of long-term growth for the GDR economy which increasingly codetermines its profile."

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**ECONOMY** 

GERMAN DEMOCRATIC REPUBLIC

RETRAINING, RESTRUCTURED LABOR TASKS AID FLEXIBLE AUTOMATION

East Berlin SOZIALISTISCHE ARBEITSWISSENSCHAFT in German Vol 30 No 1, 1986 pp 1-12

[Article by Prof Kurt Voelker, Dr of Economics, director of the Section for Labor Sciences; Technical University of Dresden. Original title: "Labor-Scientific Problems and Efforts for Their Solution in Flexible Automation."]

[Text] With flexible automation a new level of development in automation is opened up. It takes on increasing significance for the guarantee of "economic growth through comprehensive permanent intensification." (Footnote 1) (cf. "Preparation for the 11th SED Party Congress," from the speech of Gen E. Honecker, 10th Session of the SED Central Committee, Dietz Verlag, [East] Berlin, 1985, p. 30) Its consistent implementation as a crucial key technology permits the qualitative development of new sectors for increasing the efficiency of social labor for the continuation of the course of the major function in its union of economic and social policy.

With flexible automation, the sectors of single unit, small batch, and semimass production, which are known to account for approximately 70 percent of production time outlay in the GDR metal processing industry, are opened up. Whereas it is primarily a mass-production structure of production, subject to constant innovative changes and therefore "highly vulnerable," but able to rapidly depreciate its fundamental automation solutions in production technology, which are generally carried out with a high one-time expenditure, that has been affected by the previous developmental stages of automation, now for the first time highly innovative products will be attainable by means of flexible automation. (Footnote 2) (cf. Haustein and Maier, "Flexible Automatisierung" [Flexible Automation], Akademie Verlag, [East] Berlin, 1985, p. 22)

Flexible automation demonstrates the capacity to adapt to varied production tasks, to changing resources, materials, technologies, organizational forms, and changing informational needs within defined limits. (Footnote 3) (Pleschak, Dorn, Kurzhals, Neumann, "Flexible Automation--Efficiency," Conference Material, Dresden, 1985, p. 8) With it, the cycle from preparation for production to marketing is greatly shortened for an extensive range of products, the service life as well as the full utilization of fixed assets is

increased through rapid replacement of products, and reorganization expenditures for quickly changing production tasks are held down.

But this in no way implies that in the future no different developmental steps, types, and forms of automation solutions will be used. Commensurate with consumption and market requirements, a compromise between productivity and flexibility is always necessary, and it must be defined and adopted through intra-enterprise product nomenclature and the size of the series, or annual piece count.

Flexible automation in the reproduction process of combines and factories includes:

- -flexible automation in preparation for production,
- -flexible automation in production itself, and
- -flexible automation in management.

#### Elements of flexible automation are:

- 1. Shop-floor-related automation solutions in the execution of production such as
  - -numerical control [NC] machine tools, ranging from punch tape controlled machines through CNC [computer numerical control] machines controlled with the help of a small computer or a microprocessor all the way to direct computer control, where several NC or CNC machines are grouped in a DNC [distributed numerical control] system via a central processing computer;
  - -flexible programmable industrial robots (loading robots, technical robots, assembly robots);
  - -NC machining centers for the processing of a wide assortment of similarly constructed parts, possibly using pallet exchange systems and industrial robots for part and tool exchanges;
  - -production cells composed of automatically operating technical units which consist of modular subsystems (NCM [numerical control machines]; industrial robots; part and tool storage magazines; diagnostic, error recognition, and disposal systems);
- Process-related automation solutions in the execution of production such as
  - -integrated production sections and flexible production systems, which occur as computer controlled combinations of processing machines and robots with warehousing, intermediate storage, and transport systems (for part, equipment, tool, and test material supply and removal) as well as quality control, diagnostic, maintenance, and service systems. Their most important characteristic is the integration of primary and auxiliary processes into the complex automation solution.
- Computer aided development, projection, and design (CAD-computer aided design)

4. Computer aided technological preparation and production planning as well as cost analysis (CAP--computer aided planning), which, in connection with process-related automation solutions, represent computer aided manufacturing (CAM).

General automation solutions in the CAD/CAM sense include linkage of these automation elements and lead to computer aided production systems (CIM-computer integrated manufacturing), which must distinguish themselves by high flexibility and efficiency (see Illustration 1).

Guaranteeing both economic and social objectives of flexible automation solutions requires that, in their preparation, elaboration, introduction, and labor-scientific, application, economic, the unity of technical, politico-ideological aspects be asserted as philosophical. and It is also assumed that in the future interdisciplinary concerns. "...technologies which make completely new demands on the skills of workers and on the labor system will no longer be the exception, but will be increasingly widespread. It is all the more important to guarantee the necessary basic training now. The major productive force is man with his capabilities, and it is necessary to work from that basis." (Footnote 4) ("Preparation for the 11th SED Party Congress," loc. cit., p. 35)

This objective can only be achieved through a social order free of profit interests. Effects on activities and work tasks "in which our ability to solve problems is reduced to such problems as can better be solved by a computer, and in which our ability to communicate with others is reduced to such data as fall within the structure of a man-machine dialog" (Footnote 5) (W. Volpert, "Thinking Machines and Machine Thought: Computers Programming People," TECHNOLOGIE UND KULTUR, PSYCHOSOZIAL, 18 June 1983, Rowohlt Verlag, Hamburg, p. 14) are foreign to the socialist mode of production.

The scientific foundations of labor developed in the past and put into practice contribute today to the realization of progressive technological organizational solutions in areas of material production—but not there alone—and more and more comprehensively to the accomplishment of the objectives of designing work beneficial to the individual. The additional benefit can be added, if it is now a question of conceiving and designing flexibly automated production processes in the fields which have a definite influence on the productivity increase in the national economy, that, along with this qualitatively higher developmental stage of automation, crucial improvements related to manpower utilization, job content, and working condition standards will be achieved. However, the major features of flexible automation, which can be characterized by

-complexity and process-related structural solutions, -comprehensive application of information technologies, -programmability of technical (sub)systems, and -minimization of service expenditure,

also give rise to reconsideration and partial reworking of the framework for labor-scientific investigations and structural bases.

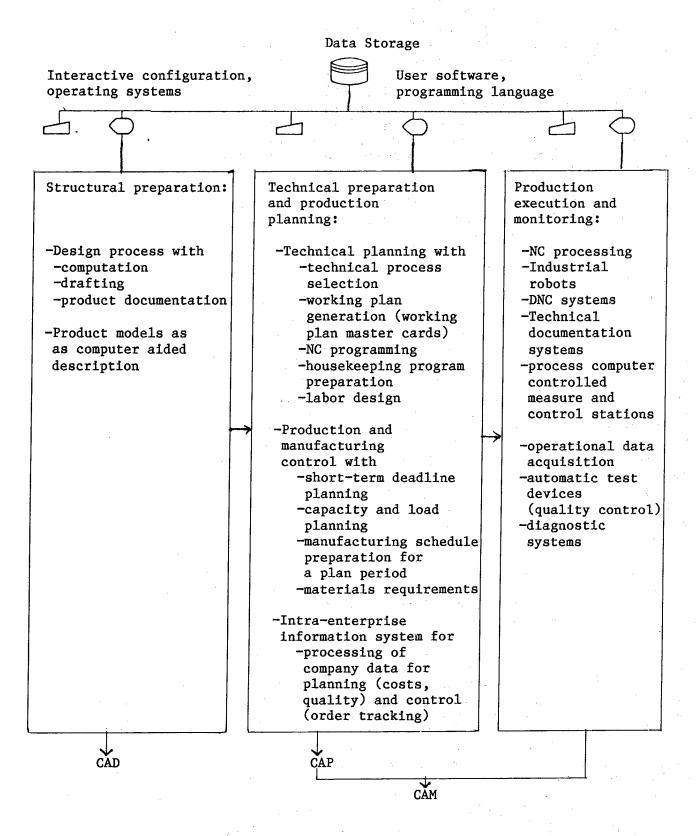


Illustration 1. Computer application in production preparation and production as components of computer aided engineering (CAE)

Proceeding from the complexity of flexible automation and from the need to synthesize integrated process solutions, the appropriateness of the course adopted in past years is confirmed, that is, to make a coherent consideration of the division of function and labor for the entire field of process-related development and application of WAO [scientific organization of labor] the centerpiece of labor-scientific design and to guarantee it methodically. In this regard, however, it is necessary to consider a number of qualitatively new elements, for which solution bases and apparatuses must be developed and which affect the area of basic research as well as applications research. These elements include:

1. Labor in flexible automation solutions is characterized to a great degree by extensive use of computer and communications technology.

Predominantly "mental" activities become the significant element of work tasks of which the object is "data." Activities of data transmission, processing, adaptation, and generation are among them, and there is no way to classify these within the framework of labor-scientific investigations. They range from activities where data are merely collected and transmitted all the way to data processing, transformation, and elaboration operations.

For pure data transmission activities and those of data processing with algorithmic procedures or using partial rules (so-called routine mental activities), analysis and evaluation from the labor-scientific standpoint can be carried out for the most part with known methods and devices, such as observation, measurement, and inquiry processes. However, these traditional devices for analysis and evaluation fail for data processing in the sense of evaluation, classification, and data linkage, as well as in the transformation from one form of data into another, or for data generation, where new data are a given group of data without necessarily developed from preestablished rules. Problem solving, creative, nonalgorithmic thought thus becomes possible without necessary recourse to either observational techniques or inquiry processes of analysis, evaluation, and structures based on them. Logical task analysis with consideration of the special characteristics of mental labor, especially of the many faceted mutually independent performance possibilities and coping styles, is currently the only method of analysis. Obviously, logical processes of the worker cannot be measured by this method; these however are quite often precisely the creative element of the activity.

Logical task analysis can be adapted to the hierarchical procedures in problem solving activities. It requires deep penetration of the labor-scientific cadre into the realm of cognitive psychology (cognitive ergonomics), extensive subject knowledge in the concrete work processes being executed (for example, constructive work methods relative to the desired result or the control of automated production processes) and new cooperative work methods with the relevant technical cadre. Its application consists of a combination of methods of assignment and result analysis and accompanying observational interviews.

Analysis, evaluation, design, and even incentives for mental, and in particular, problem solving, creative activities therefore require basic research in labor science, especially for

-measurement and evaluation of the varied solution strategies and methods for like tasks as an expression of the more limited mutual independence of the demands in contrast to physical work;

-measurement and evaluation of control processes which require awareness and attentiveness including the possible results of their demands dependent on the actual situation, which range from low content demand coupled with excessive capacity demand in routine mental activities (fundamentally monotonous conditions) through constant conscious perseverance in the face of an overload situation, which places high demands on the short-term memory-example. high concentration of data during disrupted (occurrence of stress), all the way to the fatigue phenomenon with intellectually demanding data processing and elaboration. This occurs with complex tasks because the psycho-physiological organic reaction becomes excessive through moods, attitudes, and motives and it can result in selfimposed false demands;

-measurement and evaluation of the influence on output of simultaneously occurring environmental conditions (climatic conditions, various lighting relationships, noise exposure) and the demands in mental activities for the design of performance conditions. This should be carried out at the same time as the measurement and evaluation of other demands for the integrated design of job content and work conditions.

2. Results of this research must lead to design solutions which promote a better design for man-machine (computer) interaction in flexible production systems.

A characteristic aspect of flexible production systems is the interlocking of automated processing and information technologies. The automation solutions which are going to be utilized are distinguishable by the transfer of all direct production tasks to technology. Extensive dissociation of man from tool is achieved thus: shop-floor-integrated data processing occasioned by microelectronics and continued development of machining technology not only control of the tools and work processes in production; increasingly, the work processes in design, engineering, investment project preparation, and production planning and control will be included in an integrated, comprehensive automated information technology. decentralized data technology and its linkage with central data processing at various levels of automated production planning and control is characterized by the fact that data are collected, digitalized, and partially processed at the point of origin (real-time data in on-line processing) and that they can be polled directly wherever they are needed in the decision-making process and for planning and control. The worker is consequently no longer a fixed component in an essentially shop-floor-related production process, but rather he has to fulfill comprehensive complex requirements of service, planning, and control of the production system including his preparation and control functions.

From a labor-scientific point of view, serious changes in work tasks will be the result because, with the increasing substitution of functions, man-machine (computer) relationships will be less strictly defined technologically, temporally, and spatially. Data processing and elaboration activity in physical production is becoming a crucial element of work tasks for coping

with integrated process solutions. The as yet undeveloped means for reliable measurement and evaluation of mental data processing activities can nevertheless currently be regarded as one of the reasons that on many shop floors relatively high proportions of passive monitoring activities lacking real justification are found. They are inconsistent with one of the primary characteristics of flexible automation, the low requirement for service. Especially with highly integrated processes, difficulties arise in that the objectively necessary connections of work time expenditure no longer can be accurately determined because the demand level cannot be adequately evaluated and, therefore, work tasks materialize which cannot always be justified through labor-scientific design objectives.

The use of individual elements of flexible automation and their combination to form computer aided production systems does not lead inevitably to creation of The more complete and comprehensive the transfer of progressive job content. job functions to technical media, and the more extensive the relaxation of the connection of the individual to the production process, then the more labor division and labor combination become significant aspects of the guarantee of progressive job content. With the continuing spread of complex flexible automation solutions, it is becoming more and more clear that new forms for intra-enterprise division of labor must be found in order to accommodate economic efficiency and social impact. Thus, it is clear that the integration primary and auxiliary processes linked with an increasing substitution of functions leads, on the one hand, to a certain reduction in job content in the area of use of machines, while, on the other hand, this same integration opens new prospects for changed forms of intra-enterprise division of labor. is characterized by the combining of remaining functions into a unit of production execution, preparation, and oversight activities with special consideration of the functions of production planning, linkage, and control.

Currently there still frequently exists a contradiction between the altered distribution of functions of man and tools, which leads to an increasingly strong extent to the lessening of the temporal connection of the worker to the tool and to a division of labor which is still generally traditional. This contradiction hampers an economically efficient new disposition of the partially freed-up working faculties through greater free portions of working time and carries with it the danger of polarization of qualifications. Therefore, when flexible automation solutions are used it is necessary

-that from the outset in projection stages, a comprehensive study of future manpower utilization must be carried out and

-that a "retro-optimization" of manpower in the completely designed systems and a purely mathematical determination of the necessary size of the work force be avoided through creation of appropriate projectional components.

Manpower solutions are thus intrinsic components of the projection of flexible automation solutions; they include the prospective planning of manpower utilization and must guarantee the following:

-efficient utilization of working faculties through use and perfection of worker training and a high productive use of working time;

- -encouragement of socialistic personal development through trainingappropriate utilization of workers through the design of demanding work tasks;
- -improved capacity utilization of capital assets and the assurance of a high system availability through better organization of work and new design of task distribution.

Based on various conceptions developed in recent years about the methodical process involved in the design of manpower projects in flexible automation, a unified process has developed with the major steps shown in Illustration 2.

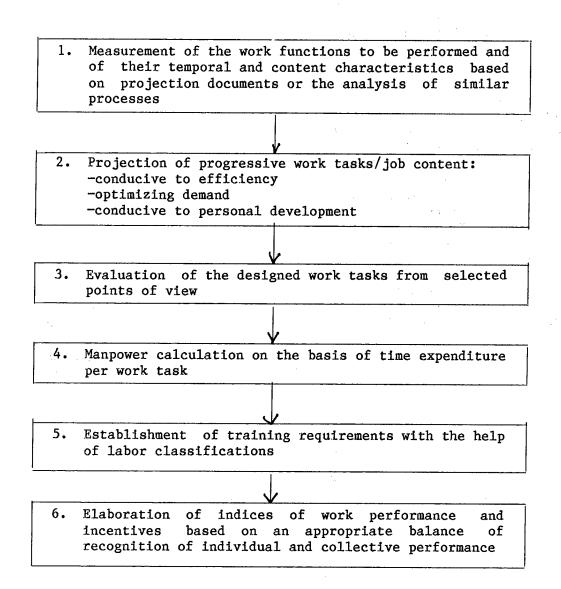
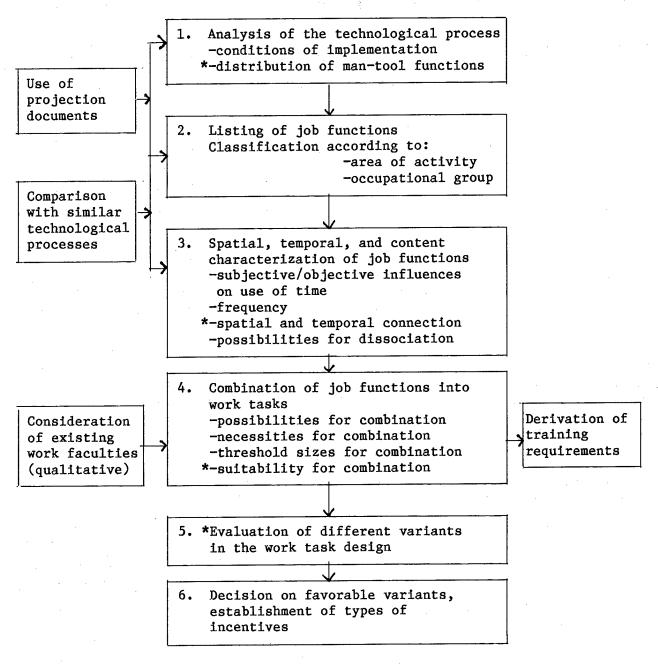


Illustration 2. Methodical progression for projection of work force solutions

Central to this procedure is the designing of work tasks (cf. Illustration 3). The first steps in a computer aided projection of work tasks are of particular value because they unite labor-scientific tasks with technical-technological projection in a modular fashion.



\* Possible utilization of computer

Illustration 3. Major steps in designing work tasks

The complexity of process solutions in flexible automation and—as an important characteristic—its relatively low need for service in a new dimension call for thorough investigation of objective premises, conditions, and effects of cooperative performance of work and elaboration of required foundations for them in the process design.

The use of collective work methods presents itself as a major problem in the flexible production system. Because of that the temporal capacity utilization of important production equipment or the full use of work faculties based on comprehensive intensification cannot be considered as alternatives in the design of these production systems. Under the conditions of extensive automation, a significant problem is how to assure maximum use of value intensive capital assets with the least possible manpower through higher system availability and capacity utilization, with the technically and technologically practicable utilization of the system established as the limit.

This problem cannot be satisfactorily resolved through traditional division of labor with separate types of work. A decisive factor to consider is therefore the development and gradual introduction of collective forms of labor, which must be safeguarded through measures of the organization of production and labor. The key advantages of collective forms of labor as specific developments of intra-enterprise labor division and cooperation are:

- -the uniting of individual labor strategies of workers for optimal collective strategies in the resolution of job tasks based on the relationship of individual and collective problem management,
- -the more efficient orientation of workers in situations which are characterized by deviations from normal production conditions. That is encouraged through acquisition and exchange of practical work experience, and the possibilities for balancing individual differences in performance qualifications are fully utilized.

Only the transition to collective forms of labor opens qualitatively new possibilities for the expansion and enrichment of tasks because with it the rigid spatial and temporal connection of manpower to tool is relaxed by means of labor organizational solutions.

Previous experiences in the implementation of collective forms of service lead to the conclusion that significant reserves of capacity are found therein, the recognition and utilization of which present an indisputable potential for the development of the individual and counteract restricted opportunities for communication as well as the effects of isolated performance of work. In this regard, the design of work tasks in flexible production systems produces the results relative to job demands that

- -charging activities which are physically one-sided, extremely repetitive, mentally undemanding,
- -mentally and physically limited and generally uneventful monitoring tasks, and
- -mentally demanding, but physically limited work

occur structurally and with them negative psychological results such as monotony, stress, and one-sidedness are encountered. Labor organizational solutions corresponding to the process nature of this high level of automation must be implemented in "cyclically complete" work tasks in the sense of production preparation, performance, and quality control functions with balanced motor and cognitive components. Thereby comprehensive utilization and continued development of qualifications is assured and the motivation potential of the workers is permanently maintained.

The complexity of process solutions consequently means considering all production personnel in relation to utilization and application of work There are currently many studies in this field. However, the problem of experimental studies is reflected very strongly here because variations in process organization, production control, and the organization of management--corresponding to flexible automation--are addressed. What can actually be accomplished by the projection of manpower needs and the design of work tasks depends basically on the inclusion of all production personnel. This is also true for the issue in flexible automation solutions of how to control the effects of limited variations in potentially available manpower so That requires a processthat the efficiency of the system is maintained. related way of looking at the situation from the labor-scientific point of view with specific consideration of increasing integration of automated beginning with design and proceeding through information technologies, technology all the way to production itself and marketing. For the design of the man-machine (computer) distribution of functions the following are necessary:

-new design solutions in the area of hardware and software corresponding to the requirements of complex modes of operation;

-new thinking and especially reallocations for new forms of intra-enterprise division and combination of labor based on comprehensive cooperation of the workers;

-labor-scientific design guidelines which take into account flexibility requirements as an expression of the dynamic character of this production system, consider different operational situations, and also especially accommodate control in the case of disrupted operation and give special importance to start-up activity.

The qualitative changes in technology accompanying flexible production systems and in the entire production organization are directed toward the achievement of labor-scientific requirements for minimizing the utilization of manpower through technological design which requires little service, guaranteeing high content, optimally demanding work tasks conducive to personal development and to efficiency for complete utilization and constant perfection of individual work faculties and the continuing improvement of work conditions for the guarantee of a reliable, demand-oriented, long-term utilization of labor. This calls for a new level of investment activity for modernization of production facilities and the renovation of production units and enterprises. This includes the safeguarding of high economic and social efficiency not only in production and manufacturing processes but also in management and planning processes through process-related forms of work organization.

3. The effects of the subjective factors on the workers for high productivity and efficiency of complex processes must be analyzed, characterized, and knowledgeably used.

The basic labor-scientific prerequisites for the utilization of flexible automation, namely, to economize on jobs, to gain manpower for other tasks, and to transform or recombine existing job functions, can only be fulfilled if all economic requirements and social ramifications are discussed with everyone, if the relevant workers are directly and actively included in the rationalization measures from the very beginning. This prerequisite for the further molding of the socialistic character of labor guarantees that the workers

- -agree with and accept the new techniques, technologies, and organization,
- -acquire the relevant performance prerequisites, especially training,
- -master the new system and
- -find work tasks and work conditions demanding based on their collaboration in the design of these tasks and conditions.

In this regard, three points should be emphasized:

- -utilization of the training level and development of the performance prerequisites of the work force through timely qualification and training, -necessary increase in shiftwork,
- -further accomplishment of the principle of work performance based on the increasing roll of subjective factors.

The manpower structures to be realized through continuing integration of automated processing and information technologies in the flexible production system must proceed from the comprehensive utilization of present qualification levels and guarantee they will correspond to its complex character especially through the design of the cognitive components of the work task. In this regard, it is necessary to take into account that in flexible automation work and qualification demands are characterized by:

- -the enlarged range of action as a combination of all the objectively available levels of freedom based on a complete activity design uniting planning, producing, and controlling work,
- -multi-faceted physical, perceptual, and intellectual preparation and performance components which differ in demands and combinations of demands, and
- -predominantly cooperative and collective modes of work.

The capability to develop individual strategies for action, the potential for fitting the flow of work to the current performance capacity of the workers, must be increasingly assured by training processes. Flexible automation requires the guarantee of a high proportion of anticipatory potential for solutions through an independent selection of modes of action derived from mental capacities and includes comprehensive study and qualification requirements in the work process.

Central to the goals of qualification and the design of training programs must therefore be the acquisition of knowledge about the modes of operation of the complex production system and their economical utilization as well as preparation for independent problem analysis and for independent transfer of solutions to varied situations. Thus crucial contributions to personal development and also economic advantages are achieved because an independent transfer of strategies to new tasks which constantly result from the reaction of the system to flexible requirements becomes possible without new qualification and training. Systematic aptitude training significantly increases the transferability of work faculties and guarantees compensation for the discrepancy between the broad learning range arising from the complexity of the production process and the limited learning opportunity resulting from the higher reliability of the system under normal operation.

The fundamental trend toward future automation of production which is introduced with flexible production systems is linked to an economy of jobs and a gain in manpower. The manpower resources thus acquired must be utilized in particular through the increase in shiftwork moving toward three shift operation both as the keystone of rationalization and the crucial foundation of comprehensive automation. For the majority of combines the necessary new higher level of utilization of machinery and facilities can only be achieved in this way. (Footnote 6) (cf. G. Mittag, "Preparing for the 11th Party Congress With Highest Performance," SED Central Committee Seminar With the Directors-General of the Combines and Enterprises and the Central Committee Party Organizers on 7 March 1985, Dietz Verlag, [East] Berlin, 1985, p. 50)

In the expansion of shiftwork, it is not a question of obtaining as many shift workers as possible, but rather as many as necessary. The main focus of the task lies in increasing the temporal capacity utilization of significant production facilities including all the facilities necessary for production—therefore also modern information technology. The socially necessary expansion of multi-shift work is linked to the following tasks:

- 1. The increase in the calendar day capacity utilization of capital assets must be achieved through economically reasonable production tasks, which assure the elimination of all causes of disruption and downtime based on physical safeguards for production, on comprehensive supply and disposal for the system, and on scheduled maintenance and repair.
- 2. The design of efficient shift systems under consideration of social factors and personal interests. In this regard, the design of low service night and weekend shifts presents itself as a particular focus for the organization of labor.

The definition of ideological labor in preparation for the introduction or expansion of multi-shift work, arguments for the permanent change in the actual labor collective as well as documentation for revision of legal regulations and current definitions of shiftwork relative also to the efficient use of non-material and material incentives as well as of other forms of social recognition must be effectively supported by the socialist labor sciences.

The achievement of the socialist principle of work performance is not merely "Distribution is not a passive result, limited to the distribution function. but rather always includes the issue of active stimulation of personal performance, of the motivating and mobilizing factors in the performance relationship." (Footnote 7) (K. Hager, "Gesetzmaessigkeiten unserer Epoche--Triebkraefte und Werte des Sozialismus" [Legal Principles of Our Era-Driving Forces and Values of Socialism], Dietz Verlag, [East] Berlin, 1985) Thus the increasing role of subjective factors is also emphasized in flexible production systems. The responsibility of workers for high end results for the entire system must be linked to the targeted full utilization of all qualitative work time and labor resource economizing factors of economic growth corresponding to the process-related nature of the organization of production and labor, that is, individual interests and personal performance must be effectively directed toward the results of collective and cooperative The material interest must be strongly directed by means of appropriate incentives so that all workers who will work together in this flexible automation production system (production workers. foremen, university and technical school graduates) specialists. stimulated in the same direction. Thus high individual performance and great performance readiness must be effectively recognized in material and nonmaterial fashion as a reflection of exemplary performance behavior.

Although in such production systems the entire labor process is becoming increasingly objective and there is a relative independence of the production process and of product quality from the activity of the worker, the significance of the active work is not reduced. Quite the contrary, the economic effects of active work assume new dimensions, and the significance of the decision functions remaining with the worker for a disruption-free, stable, and economic functioning of the automated processes increases. Performance evaluation and incentives must correspond to these requirements.

Editorially revised and abridged.

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**ECONOMY** 

PRACTICAL METHOD OUTLINED FOR APPLYING FLEXIBLE AUTOMATION

East Berlin SOZIALISTISCHE ARBEITSWISSENSCHAFT in German Vol 30 no 1 1986 pp 20-24

[Article by Prof. Franz Pleschak, Dr of Economics; and by Klaus-Peter Sehmisch, certified industrial engineer, scientific assistant; both with the Technical University Dresden, section for Socialist Industrial Economy. Original title; "Efficient Solution of Flexible Automation".]

[Text] Introduction of flexible automation can lead to great effectiveness increases. It covers all factors of intensification, permeates all phases and areas of the capital replacement process, and is a decisive factor in obtaining greater effectiveness through new products and new technologies. As a key technology of comprehensive intensification (Footnote 1)(Cf. On the Preparation for the Eleventh Party Congress of the SED. From a speech of Comrade E. Honecker, Tenth Meeting of the Central Committee of the SED, Dietz Verlag, Berlin 1985, pp 31, 37.) it leads in a complex manner to a decrease of expenditures, increased quality, time savings, expansion of production and an improvement of working and living conditions. (Footnote 2)(Cf. Authors Collective: Economics of Automation, Verlag Die Wirtschaft, Berlin 1985)

Economic and social components of effectiveness can be utilized only fully when the effectiveness measures are deliberately considered during preparation, design, implementation and operation of flexible automation solutions. This process includes many decisions which require choices from a spectrum of possible solutions, based on technical, organizational, management science, and economic criteria. In planning for operation, the decision process can be structured into the steps of analysis phase, conceptual phase, and design phase. This is followed by the implementation and operational phases. (See figure 1).

The decision process is an iterative one and has many feedback loops. The analysis phase must, among others, document the spectrum of requirements, from which the automation objectives are then derived. Important decisions are made in the conceptual phase. Its result are the functional specification, task definitions, and documentation for basic design, and the instructions for technical-organizational or general repair measures and modernization. The design phase includes development of the automation project, based on concretization, and detail design of the alternate solution which was chosen and verified in the system specification. A major decision is made in the system specification, which sets the limits and the framework

for the following partial decisions. Nevertheless many variables remain during this phase, based partially on the solution method and partially on the application requirements. Solutions must be found through optimization schemes, simulation and comparison of partial solutions which cover the total conceptual design, having maximum effectiveness as goal.

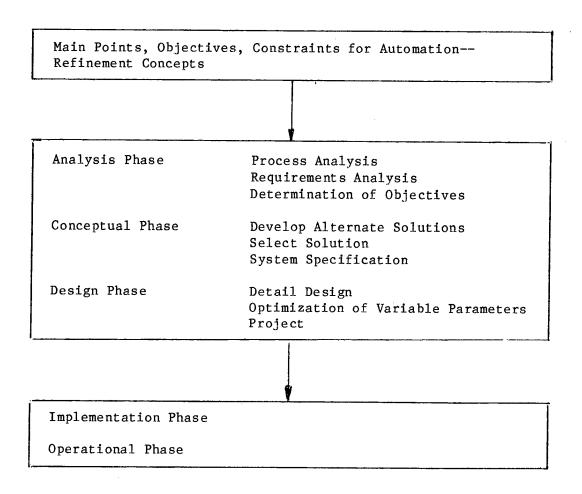


Figure 1 System Development Phases for Flexible Automation Systems

Decisions related to effectiveness during the development phase are based on effectiveness studies. The most important points of departure are shown in figure 2. In order to obtain more detailed results, the most important decision points must be determined and must be measured against decision criteria. A possible system for decision steps in the development process is shown in table 1.

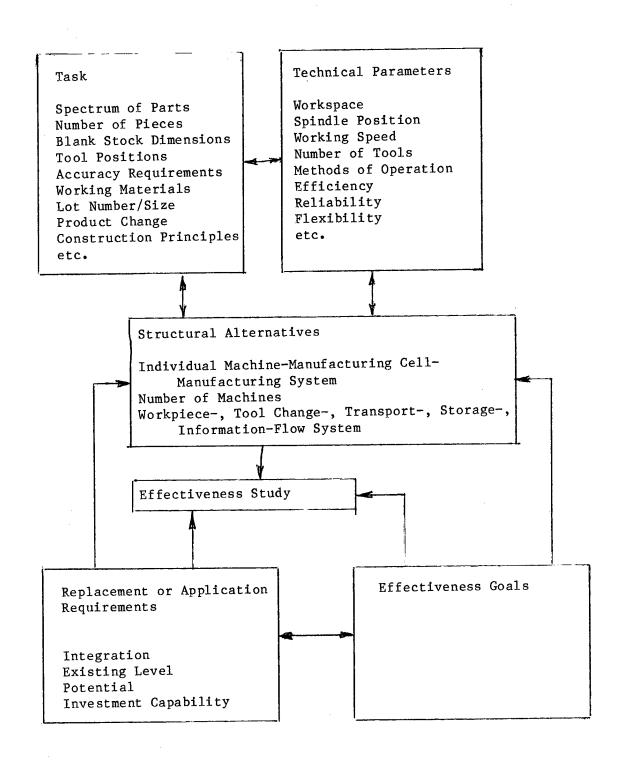


Figure 2 Points of Departure for Effectiveness Studies

In correlating these criteria with the decision process one should start with the general effectiveness determination model and match this to the particular decision situation. The following steps have proven useful:

- 1. Identify the technical, organizational, management science, and economic criteria of alternate solutions and of basic solution!
- 2. Evaluate alternate solutions by comparison with minimum requirements, standards, objectives and needs and make preliminary selection!
- 3. Select most favorable alternate solution!
- 4. Determine effectiveness of selected solution compared with the basic solution, the degree of realization of effectiveness goals, and prepare for the complex decision solution!

Table 1 Decision Steps for the Planning of Flexible Automation Systems

Decision Steps	Content
1. Analysis Phase	
Determine basic state	-Analyze technical, mangement scientific, economic level (Process analysis) and validate by level comparisons
	-Fit into capital replacement process, and identify level differences
Determine requirements based on flexible automation	-Determine requirements based on product range, technologies and methods, process structure, means of production and labor -Determine required flexibility, complexity and reliability of solution -Determine requirements based on required production and effectiveness of organization
Determine requirements based on application	-Determine conditions for products meeting automation requirements, organizational solutions, process structures -Determine conditions based on restrictions because of automation
Determination of	

# Decision Points (continued)

# Content (continued)

## 2. Conceptual Phase

Determine functions to be included in automation -Detailing of functions and determination of interrelationships (functional sequences)
-Allocation of function carriers, distribution

of functions to subsystems

-Design functional structure to solve automation

task

Dimensioning of Solution

-Determination of required capacity for elements,

subsystems, total system

-Determination of required capacity for notautomated sub-systems and for production area

-Preselection of technical solutions for

functions

Structuring of Solution

-Study and selection of technical structure (manufacturing-, handling-, transport-, supply-,

waste disposal-, computing- technologies)
-Determination and choice of technological
structure (Sequence of operations, form of

process)

-Determination and selection of spatial structure

(single machine, manufacturing cell,

manufacturing system, optimization of arrangement

-Selection of most suitable solution to meet

goals

-Proof of effectiveness increase

-Solution of scientific-technological problems

and of implementation conditions

### 3. Design Phase

Detailing of system specification

System Specification

-Variation and optimization of conceptual

solution

-Detailing of functional structure, dimensioning

and structuring

Detailed Design

-Selection and determination of all technical, technological, management-science, and economic

parameters for subystems

33

-Design of interfaces with preceding and following processes by mutual adaptation

-Carry out measures to assure correspondence

of actual and potential effectiveness

Establish implementation conditions

.

This sequence of effectiveness determiation should be worked out to the shown detail only in overall decisions. Partial decisions or subordinate decisions require less detail.

Evaluation of alternate solutions is based on technical, organizational, management-science, and economic characteristics. A level comparison indicates advantages and disadvantages of alternate solutions. Technical characteristics, and management-science related characteristics can be assessed by differentiated, summarizing level characteristic numbers. Their true meaning must however not be overestimated. More important is the direct comparison of selected parameters with standards, requirements, goals and needs. This will show up alternate solutions which do not satisfy functions. A level comparison uniquely identifies unsuitable alternates. These do not correspond to the scientific-technical optimum capability, appear unsuitable according to all criteria, or their criteria lie below the level of the basic solution. Results lead to preselection and to an effectiveness oriented design of the alternate solutions.

A further limitation of solutions is caused by the capital replacement requirements and the fixed operational requirements. Each solution depends on investments, labor for development and implementation of solutions, materials, etc. which generally are available only in limited amounts. Priorities and sequencing of measures is determined by their effectiveness and the constraints of given limitations.

After preselection of alternate solutions based on functional compliance, clearly visible advantages and disadvantages, and their fitting into the capital replacement process, the most suitable alternative is chosen from the remaining alternative solutions.

Since the individual advantages and disadvantages are, from an economic viewpoint, expressed primarily in terms of costs, profits, and required one-time expenditures, these figures are the most important criteria for an economic selection of alternatives. The goal is to minimize total expenditures. As far as other economic criteria, such as increase in effectiveness, increase of export capability, export profitability, savings in labor time, increasing labor resources, and lowering of production consumption are concerned, it must be tested whether the chosen solution still represents the optimum. If the rankings do not correspond, the importance of individual criteria must be assessed. Standards for this purpose are the comprehensive intensification requirements and the short, medium and long range planning tasks.

After the economic characteristics, social characteristics must also be considered in the selection process. If economic and social goals are satisfied in different measures, an overall quantitative evaluation must be made, which weights and consolidates the different aspects and then permits a consolidated statement.

Finally, the selected, most suitable solution must be examined, whether it yields the required effectiveness increase, compared with the base

solution, and whether economic effectivity requirements are satisfied. The decision is then based on comparison of the calculated effectiveness values with the goals, normative values, optimum values and experience values.

Based on the character of the decision situation, this solution framework of effectiveness determination and decision making also permits use of partial solutions. Thus, if the decision process permits, minimization of one-time expenditures or cost minimization can become decision criteria. Often also technical criteria such as goals in specifications, or goals which express indirect economic interests can be used for selection.

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ECONOMY ROMANIA

ENERGY, SCIENTIFIC, TECHNOLOGICAL PRIORITIES OUTLINED

Bucharest ENERGETICA in Romanian Vol 33, No 12, Dec 85 pp 532-538

[Article by Mario Duma, head of the Laboratory for Energy Forecasting, Management, and Economy; Iosif Cserveny and Radu Duduica, senior scientific researchers; Emanoil Barbulescu, senior technical engineer; and Gheorghe Pribeag, Dan Fulger, Georgeta Epure, and Dan Calcisca, scientific researchers, at ICEMENERG]

[Text] Descriptors: scientific and technological priorities, energy, international technical and scientific collaboration.

#### Introduction

The concept advanced by ICEMENERG to integrate forecasting in the foundations of long range energy development, in the systematic treatment of energy problems, and in the perception of these problems in an economic, technological, ecologic, and social context, justifies the substantiation of strategies as one of the objectives of forecasting. The substantiation of scientific and technical strategies seeks to select priorities for scientific research, technological development, and technical progress (priorities for domestic activities, and for participation in international scientific and technical collaboration). Instead of the old practices of finalizing forecasts for scientific and technical development in terms of neutral, unsifted specifications for a multitude of possible research topics, we are seeking to concentrate research (and cooperation) efforts on major directions, selected after analysis of long range energy and economic efficiency. Forecasting thus also acquires the practical task of initiating and instituting in time the research necessary for the future, of assuring an appropriate balance between research of immediate interest and long range research, between defensive-corrective research and offensive-advanced research, aiming to open new ways to solve Romania's energy problems, and to prepare and create long range research programs and plans.

For the substantiation of energy strategies, forecasting is expected to create the variations of principle and the defining factors needed for decisions on future energy magnitudes and structures, their corresponding energy investment programs, and especially the technological options for these investment objectives.

From a scientific, technological, and energy standpoint, the substantiation of strategies requires a clarification of the restrictions and degrees of freedom in development planning, a demonstration and understanding of the interdisciplinary and inter-branch relations and cooperations necessary for comprehensive solutions to problems, as well as of those among processes and problems throughout the energy network. As a result, forecasting activities also assume the practical task of disclosing, preparing, and initiating necessary correlations in the dynamics of long term forecasts.

In examining scientific and technological priorities, we should point out that a diversity of solutions are generally possible for a diversity of energy problems. The solution to any problem requires a conception and investment effort. Each ton of additional conventional fuel produced or saved, as well as any truly new and efficient technical solution, requires an allocation of human and financial resources. Nothing is obtained without human and material effort. That is why, given our country's size and our economic potential, the selection of priority directions for research and the focusing of efforts on these orientations are more important than in countries with extensive resources. However, even those countries are selecting priority research orientations without attempting to work on all possible solutions.

The determining factor in selecting such a priority and in orienting efforts toward it, is the criterion of energy efficiency, of the achievable energy contribution. To be sure, the concentration of forces and resources on a small number of research directions also raises the risk of failure if one of the directions does not produce the expected energy efficiency. But if forces and resources are not concentrated, it is certain that no direction will yield significant efficiency, thus widening the gap with advanced achievements throughout the world. The "broad front" option does not involve responsibility for a selection decision, but it does involve the responsibility of "not having selected."

We therefore consider that the answer to many problems which determine a long term solution to the energy problem, does depend on the manner in which the human and financial resources available in research are concentrated—based on sound forecast analyses—on given objectives that will make a maximum long term energy contribution to the national economy.

At ICEMENERG, the concern for a substantiated selection of priorities was initiated and developed as part of a CEMA project to establish priorities for international technical and scientific collaboration, but the approach used was intended to select priorities for both domestic activities and international collaboration.

1. Method and Organization in the Substantiation of Priority Selection

In establishing extent and types of scientific and technical priorities, the simplicity of the problem statement proved to be only apparent, requiring that certain criteria be clarified and applied, and that the inclusion of collaboration objectives in the priority category be substantiated as follows:

The first criterion of priority interest for a given collaboration objective on the part of a country with a deficit of energy resources, is the contribution of the respective technical and scientific solution to solving its own fuel and energy problems (net energy contribution). (This first criterion is itself subject to shadings, and is weighted by various conditions and uncertainties);

One criterion—which is in fact a condition compared to the first, but which for some countries can in principle itself constitute a criterion of interest—is the economic efficiency of the respective technical achievement, at the same time clarifying the conditions that depend on the magnitude of the financial, material, human, and other resources which must be allocated to the project, on ecologic impact, and so on;

The contribution that international scientific and technical collaboration, and particularly the multilateral contribution within CEMA, can make to the scientific and technical solution under consideration;

The economic and technological interest to participate in production specialization and collaboration as manufacturer of power equipment or instruments, including the full utilization of machine construction facilities available in the power branch;

Energy, economic, and other interests to participate in the joint construction of energy investment objectives in one's own country, in other CEMA member nations, and on third markets.

One additional factor is the scientific interest in exploiting domestic scientific advances or in creating conditions for scientific achievements, fundamental or applied, whose usefulness reaches beyond energy alone.

Important links exist among these criteria, which in fact do not exhaust all the possible criteria of interest.

As an example, for some technical and scientific solutions whose implementation is expected to yield significant energy efficiency, technical and scientific collaboration can result in an additional energy contribution, through the joint achievement of a higher technological level, or of higher quality performances; the collaboration can also become interesting through a greater economic efficiency, obtained for instance from the distribution of the financial efforts allocated to research and production.

In general, given the limited financial, material, and human resources available in each country for solving technical and scientific problems in the energy field, the recourse to international technical and scientific collaboration allows an attack along a broader front, such as saving energy or increasing the production of primary energy resources, and by assuring conditions of mutual advantage, enables a greater contribution to be made in solving the energy problems of each country as part of these problems, and thus creates a larger total energy contribution; increased energy contribution and greater economic efficiency are consequently interrelated.

But for some new technical and scientific solutions, international technical and scientific contribution can constitute—at least for some countries—a condition for their implementation, and thus a condition for an interest in the respective research direction, as for instance when the solution involves various components, tooling, or materials which are not available in a given country, and whose scale of application and technological difficulty do not justify research and the creation of an industrial base in the given country, but which are available in other countries that participate in the collaboration. Another example might be an interest in various advanced technologies for processing primary energy resources, an interest motivated by the fact that participation in the technical and scientific collaboration will also be accompanied by economic collaboration for the delivery of the respective primary or processed carriers, and ultimately by participation in the joint construction of investment objectives for energy in the countries that have the national resources in question.

Connections such as the ones described above, between technical-scientific and economic collaboration--for delivery of energy carriers, for specialization and cooperation in equipment production, and for the construction of investment objectives -- are not only motives, but also possible complementary factors in forming and emphasizing joint interests in certain objectives of technical and scientific collaboration. Indeed, the experience gained in formulating the "Technical and Scientific Forecast for Solving the Fuel and Energy Problems of CEMA Member Nations" has clearly shown that despite the receptiveness, mutual understanding, and spirit of comradery which characterized the writing project, the general interest in equalizing the economic development levels of the CEMA member nations and in jointly solving the fuel and energy problems of these nations, was not always sufficient to reach agreement and inscribe into the Forecast formulations which would reflect the major, stringent interests of some of the countries, if these interests did not conform with the energy or other interests of the participating countries. It was thus possible to observe that while some of the national documents written for the Forecast, and the positions of the delegations to specialized meetings, did stress problems of energy resources and technologies that would lead to energy savings, other documents and positions stressed the development of specializations in the design and production of certain types of energy related equipment. The result is the methodologic conclusion about exploiting the links and conditions mentioned above, so as to focus forecasts around certain priority objectives defined by technical and scientific collaboration, both on the identical, joint interests, and on the distinct, complementary interests of the various countries. In this respect, the custom of holding plenary meetings throughout the formulation of the Forecast was important for correlating problems, as well as technical, scientific, energy, economic, and other interests.

Reexamining the primary criterion for selecting priorities—the contribution of each expected technical and scientific achievement to solving the fuel and energy problems of the participating countries—we once more note the close link between technical—scientific forecasting and economic forecasting in the energy field, since the future magnitudes of these "fuel and energy problems"

as a whole and individually, are related to energy economic forecasts, and this Forecast is in turn closely correlated with economic development forecasts. The Forecast documents of the Romanian specialists proposed, communicated to all the countries participating in the formulation of the Forecast, and used to establish Romania's technical and scientific priorities in the energy field, a methodology to define and evaluate the energy, economic, and other parameters necessary to select priorities and analyze their efficiency.

The methodology was based on the following principles:

Analytically determine efficiency, starting with the domestic efficiency of various technical and scientific objectives proposed for collaboration, taken individually;

Determine specific effects and consumptions per physical units (or conventional units), and per usefulness units (meaning as a function of production capacity, power, production, energy, and other units); this is aimed at decoupling—to a first approximation—the comparative analysis of the efficiency of technical and scientific collaboration objectives, from economic development forecasts, since a comparison of the efficiency of technical and scientific objectives can be obtained for various given hypotheses of economic development; similarly, other values of overall efficiency can be calculated subsequently, the analysis being adaptable to other possible plans for national economic development and to other collaboration actions;

Orient analysis specifically toward energy aspects that are conclusive for "solving fuel and energy problems," as well as toward those aspects that provide relations between technical and scientific forecasts and economic forecasts in the energy field, and correlations among branches and various fields from the energy standpoint; in addition, consider energy quality, ecology, and social aspects.

It should be noted that even though all the expected information could not be calculated-by far--for each of the examined technological development scenarios, the domestic analyses performed by means of this methodology quite clearly disclosed priorities and energy problems of major importance. Far from being as it sometimes is, a simple perfunctory economic calculation which confirms what is already known (or wanted), the analysis has also created some surprises: it proved that some technical and scientific concerns whose importance was considered obvious, make rather insignificant energy contributions, as a result of which their priority was eliminated; and in some cases, it disclosed the converse.

In closing the question of priority definition for technical and scientific collaboration in the light of relations between technical-scientific and economic forecasts in the energy field, we must also add that the priorities supported by Romania in the forecast were derived from two meshing methodologies: on one hand, from comparative calculations and analyses of energy efficiency and importance, such as the ones discussed here, and of

feasibility and timeliness calculations and analyses of technological development possibilities of interest to researchers and known in the literature; and on the other hand, from an analysis of critical points in Romania's energy economic forecast, which has deductively shown certain energy problems (or technical requirements for energy development), and has indicated certain technical-scientific and multilateral collaboration priority objectives.

In fact, at the initiative and under the direction of the leadership of the National Council for Science and Technology (CNST), for a certain stage (1984), the matter of priorities was redefined by establishing the energy economic priorities resulting from the tasks of the 1986-1990 plan, leading to the scientific and technical priorities necessary for fulfill the energy economic priorities.

# 2. Principal Priorities Established and Approved

The principal scientific and technical priorities were outlined in several successive papers forecasting and planning scientific research and technical engineering activities for the 1986-2000 forecast period, and on to 2010. Based on the considerations already discussed, the outline took into account the fact that the major trends in the development of energy science and technology are aimed at greater interconnections (substitutions, cooperations, relations) among different energy carriers, comprehensive exploitation of primary energy resources, and more thorough meshing of production and energy consumption. In order to correlate with existing institutional structures, the scientific priorities of the energy field include problems that explicitly and directly belong to the branch of electric and thermal power, in defining and circumscribing its present economic and organizational boundaries, as well as future problems of science and technology in energy as a whole ("the energy field"), trends and classes of solutions of an inter-branch and interdisciplinary nature, and classes of solutions which currently have no explicit niche or do not belong to a current branch speciality; also included are several large objectives which although fitting within the concerns of current branches other than electric and thermal power, represent major energy priorities for the national economy as a whole.

Thus, in order to fulfill the tasks of the electric power sector during the next five-year plan, the following priority economic objectives were established, detailed, and approved for scientific research and technical engineering activities:

- Energy exploitation of low quality fuels; assure normal construction and operation of coal powered electric power plants;
- Exploit nuclear power;
- Improved supply of intermediate and low temperature heat; expanded production of combined electric and thermal power;
- 4. Intensified exploitation of the hydroelectric power potential;

- 5. Exploit unconventional, renewable, and substitute sources of energy;
- 6. Introduce improved technologies for exploiting reusable energy resources;
- Reduce specific and internal consumptions of fuels and electricity in installations that produce, transport, and distribute electric and thermal power;
- 8. Steadily increase reliability and continuity in the exploitation of energy objectives;
- 9. Prevent and combat environmental pollution by energy objectives;
- 10. Improve the operation of the national electric power system, including electric power networks;
- 11. Efficiently exploit energy in the national economy;
- 12. Improve management and planning activities in the energy field;
- 13. Comprehensive automation and optimization of management in energy processes, using process computers and microprocessors;
- 14. Further increase labor productivity in construction, installation, exploitation, and production units in the energy sector;
- 15. Manufacture materials, as well as new and modernized products needed by the energy sector, so as to replace or reduce importations.

(The majority of these objectives also remain priorities for the upcoming five-year plans, but their importance in terms of specialized priorities, expenses for scientific research and technical development, and so on, will be subject to changes as discussed further in this paper).

Without going into details, we will outline the topics included in the 1986-2000 period for one of the priority objectives, the exploitation of nuclear power. Scientific research and technical engineering activities will cover the following problems:

Technology and structure definitions for CNE (nuclear power plant) designs, including the conventional aspect of equipment and installations;

Technology and instruments for building, starting, and operating 660 MW CNE's with CANDU reactors;

Technology and instruments for building, starting, and operating 1000 MW CNE's with VVER reactors;

Operating and safety technology, materials, equipment, and instruments specific for CNE's;

Construction and installation techniques specific for the new CNE's;

Improved CNE cooling systems aimed at reducing the amount of necessary water, and at recovering residual heat;

Computer assisted management, analysis, and monitoring of the economic operation of all CNE categories;

Technological approaches to the design, structure, and equipment for building, starting, and operating low temperature CNE reactors;

CNE heat supply for thermal power;

Technologies and equipment for providing, storing, and transporting nuclear fuel;

Solving the problem of CNE radioactive waste;

Methods for decommissioning CNE's after their operating period, and preparations for the period after 1995-2000;

Methods for using CNE fast breeding reactors;

Using controlled thermonuclear reactions for fusion CNE's.

To illustrate the selective nature of priority determination, we can cite the typical example of electric power transmission as direct current along cryogenic lines or waveguides, which given the size of our country and the inherent technical difficulties of the project, was considered as having a low probability of completion or low efficiency for the next 20 years, and was thus not included in the list of priorities, even though it has been intensively studied in earlier research.

Based on all the forecasting information available today, we believe that from an energy standpoint, a first version of the economic and technical-scientific priorities for the 1990-2010 period, will be:

- 1. Increase the assurance of domestic primary energy resources through more reserves explored and placed in exploitation; higher degree of extraction from deposits (of the "final recovery factor" for oil and similar resources); increased production of domestic primary energy resource, while assuring the long term exploitation of new types of primary energy resources; covering the shortage of primary energy resources through international technical and scientific collaboration and cooperation, established and balanced for the long term;
- 2. Radically increase the efficiency of energy utilization in the economy through new technological principles and processes instead of the present energy intensive ones; reduce losses at the final utilization of energy; create combined technical processes for maximum utilization of the entropy

contained in primary energy resources; efficient comprehensive exploitation (material and energy) of primary resources through no-waste (material and energy) or low waste (in particular through new, unconventional methods for efficient cooling, using heat of low potential and with low water consumption; new, efficient methods to recover the heat in burning gases);

- 3. Increase the direct contribution of energy to the quality of live and work through technologies for improved microclimate and environment, for household activities, individual and collective transportation, and personal computing; through greater labor mechanization, automation, computerization, and robotization on the job and at home;
- 4. Protect the environment by avoiding or severely limiting all forms of pollution, through the construction, operation, and decommissioning of energy objectives and processes, including those that consume energy;
- 5. Assure high quality for all energy carriers (technical parameters, continuity, availability, versatility, and so on);
- 6. Limit the increase—as a result of unfavorable natural circumstances, or reduce the specific consumptions of financial, material, human, natural (water, land, air, and so on), and time resources needed to build, operate, and ultimately decommission, energy objectives and processes; in particular, efficient solutions to modernize outdated energy installations through rebuilding.

In order to achieve the above priority goals, the following technical and scientific priorities for the period under consideration will also be listed as ways and means (indicating that they present some interactions and relationships):

- 7. Expand and improve the production, transportation, distribution, and utilization of electric and thermal power, including the exploitation of new types of processed and recovered primary energy resources; create and advance new types of electric power conversions—direct conversion of the chemical energy in fuels, thermal energy, and photoenergy; new methods to increase the overall yield of conversion installations that include thermodynamic cycles (see the final item in point 2); create and encourage new types of energy transformations (high efficiency heat pumps, and so on);
- 8. Improve the processing (enrichment, fractionation, and so on) of energy carriers, create and encourage the exploitation of new types of energy carriers (hydrogen, methanol, synthetic and other fuels);
- 9. Develop technologies and equipment that consume energy carriers in a processed form (enriched, synthetic, and other fuels) and transformed forms of energy (primarily electric power) in energy consuming processes;
- 10. Improve energy systems—the national electric power system, the national energy system (all energy forms and carriers); create technologies for better utilization of international energy relationships;

- 11. Create and exploit new local multicarrier systems (combined utilization of several carriers) to supply consuming processes with energy (primarily systems to supply and exploit heat);
- 12. Create and encourage new types of solutions regarding the short, intermediate, and long term accumulation of various forms of energy in small and large amounts, an in stationary and mobile installations;
- 13. Create and encourage new types of solutions to transport and distribute various energy carriers;
- 14. Develop the mechanization, automation, computerization, and robotization of all categories of energy installations and processes, including those that consume energy (as a means for efficiently saving and utilizing energy, for assuring energy quality and high labor productivity).
- 3. Continuity and Applicability of the Establishment of Scientific and Technical Priorities

The establishment of priorities has had and retains an iterative nature, taking into account the evolution of energy technologies, forecasts for the overall development of the national economy based on directives for socioeconomic development, the international situation, and possibilities for collaborating with other countries (especially CEMA member nations) to complete priority research objectives and other projects.

The formulation of forecasts takes into account first of all, the indications of the party and state leadership; in addition, it reflects the tasks outlined by CNST and MEE managements.

It also assures a correlation with the scientific research and technical development forecasts formulated by other fields and branches of the national economy.

In fact, the iterative nature of deeper implementation in successive versions, results from the evolutionary process of knowledge based on forecast studies and new forecast information published in the domestic and world literature, including information obtained as part of international technical and scientific collaborations. Some progress has come from the constant process of structuring and systematization, which has led to domestic inter-branch recombinations, redefinitions, and even additions. Moreover, the defined priorities were subjected at each step to a number of approvals, consultations, and scientific discussions organized by ICEMENERG, ICCE, MEE, and CNST, with the participation of specialists from other branches and higher education, and with the support of the State Planning Committee (CSP). At some stages, priorities have been approved by higher levels of management.

In direct confrontation with practice, the outlines, substantiations, and definitions of scientific and technical priorities were combined with promotional efforts to implement these priorities during the formulation of

five-year plan and annual CS-DT-IPT plan drafts, of international technical and scientific collaboration programs, of various positions and approvals, including for instance, development programs for energy investments, topics for higher education and doctorates, and so on. At the major stages, drafts of priority lists were disseminated for information to specialists in research, design, higher education, for worker improvement, and for production.

Phases for each five-year plan were defined as part of detailing and publicity actions, up to introduction into production. Additional evaluations were performed of the major forecast parameters and effects, of implications to the research network, priority dynamics, fund requirements, and so on.

# Conclusions (1807) to a graph of the control of the

Based on technical and energy forecasts performed in recent years, we have analyzed, substantiated, selected, and stated Romania's scientific and technical energy priorities for the next 5-15-25 years.

The establishment of these priorities being an iterative process, it will be necessary in coming years to systematically continue to improve and update technical and energy forecasts, consistent with the evolution of the national economy as a whole and of its energy technologies.

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The author list of the present paper, limited to the ICEMENERG specialized work collective, is far from listing all the management and staff which at various stages have made essential contributions to the respective research program, and to the substantiation and selection of scientific and technical priorities. Over the years, the authors have benefited from major indications and sustained support from the managements of CNST, the Central Institute for Energy Research, many and valuable specialized consultations, suggestions and comments from Teodor Popa at ICEMENERG, strong collaborations and consultations on concrete problems with management and other specialists in CNST, the Institute for Energy Research and Modernization, the Institute for Hydroelectric Studies and Design, the Bucharest Polytechnic Institute, and other institutes, MEE, and other ministries. Particular support—methodologic and content—was received from CSP.

The listed authors of the present paper express their most profound gratitude to their de facto co-authors.

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ECONOMY

DEVELOPMENT, PROBLEMS OF NATIONAL GRID NETWORKS DESCRIBED

Bucharest ENERGETICA in Romanian Vol 33, No 12, Dec 85 pp 538-540

[Article by Mircea Ciobanu, head engineer of the PFSE department, ISPE, Bucharest]

[Text] Descriptors: energy systems, development

Introduction

Romania's national energy system (SEN) has undergone a rapid development in keeping with the development requirements of the national economy.

Started in 1959 at the same time as the formulation of the first electrification plan, electric power sources will reach a production of 101.2 TWh by the end of the current five-year plan (1986-1990) and 125.2 TWh by 1995.

Fulfilled during this period were the objectives of the first electrification plan and of the five-year plan, the most significant of which are:

Creation of a unified energy system;

Concentration of electric power production in large plants with 200-330 MW generator units;

Development of joint production of electric power and heat in thermal power plants;

Exploitation of the hydroelectric potential, of inferior fuels, and of secondary resources in electric power plants;

Satisfaction of the growing demand for electric power by building installations to bring electricity from production plants to consumers.

During the more than 35 years from the launching of the first electrification plan, the installed power in plants has grown from 740 MW in 1950, to 18,824 MW in 1984 (and about 20,300 MW in 1985), while the produced electric power increased from 2.2 TWh to 71.6 TWh (about 76.6 TWh in 1985).

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Anul (B)	1	2	3	4	5	6	
1985	-200	<b>-750</b>	550	800	+2400	-100	
1990	+ <b>2</b> 500	1600	1100	<b> 1750</b>	+1850	+100	
1995	+1610	2630	+4150	- 1750	41650	- 550	

- 2. Zona Dobrogea și Muntenia de Est
  2. Zona Muntenia
  3. Zona Moldova
  4. Zona Transilvania Gentrală și de Nord
  5. Zona Oltenia
- 9. Zona Transilvania de Vest și Banat
- (C) Zones (B) Year (A) Values in MW
- Dobrogea and East Muntenia
- 2. Muntenia
- 3. Moldova
- 4. Central and North Transylvania
- 5. Oltenia
- 6. West Transylvania and Banat

Standard voltages were adopted in the development of electric networks, as well as high voltages (220 kV and 400 kV) for distribution from large plants to consumer areas of the system.

During the past 10 years installed power was concentrated in large plants near primary energy sources, while electric power consumption was significantly developed in all areas of the country, some of them distant from these plants.

Under these conditions, ISPE studies have shown that it is advantageous to adopt a voltage of 400 kV for the transportation network, and to gradually limit the development of 220 kV networks.

Together with the development of the hydrocarbon savings policy and the expansion of coal fired plants, 50-150 MW thermal plants have been started and are being built in the country's major consumer centers, which have been connected to local 110 kV networks. Similarly, hydroelectric plants have been built with installed powers of 25-50 MW, which have been connected to 110 kV networks.

The present power system is thus one in which 400 kV and 110 kV sources predominate, with 400 kV being used for the power transportation network, and 110 kV for zone distribution networks.

For the importation of 5 billion kWh of electric power from USSR, a 750/400 kVstation is being built at Isaceea, connected by 750 kV LEA (overhead lines) to the USSR and Bulgarian electric power systems.

1. Power Shortage and Surplus in Typical SEN Zones

A preliminary analysis of electric power plant production and electric power consumption for 1985, 1990, and 1995, has established the existence of shortages and surpluses for various zones (table 1).

It shows that Oltenia has a large surplus for all three years, and that the zones which will receive CNE's (nuclear power plants) will achieve balance or surpluses in 1990 or 1995.

Similarly, it shows the need to build a fourth CNE or expand the Victoria CNE by 1995, since the SEN as a whole still has a shortage of about 1200 MW (equivalent to two 700 MW generators). Depending on its location, this additional power will reduce the shortage in Muntenia, or in central and north Transylvania.

The SEN networks that must be built during the 1986-1990 period, must satisfy the power exchange among zones, both during this stage and in future ones, when due to the shifted balance among zones, their role will change to the point where some arteries could no longer be justified after 1990.

 Possible Strategies to be Considered in Substantiating Power Transportation Lines for the 1986-1990 Stage and for 1995

The operating conditions of the SEN network have been the object of many studies, which have established the following limiting conditions: heavy loading on the lines that connect Dobrogea and Oltenia to Moldova and Transylvania, where shortages exist; low voltage levels; reduced efficiency in transportation installations; and relatively low operating reliability.

The possibilities for this stage are:

- 1. Strengthen transportation networks to meet current standards with suitable efficiency and reliability conditions. The necessary investments are very large (hundreds of million lei) and most of them are not planned, since the construction of the Moldova and Transylvania CNE's will gradually balance all of the country's zones;
- 2. Reduce shortages by keeping in operation hydrocarbon fired plants (Ludus, Fintinele, Borzesti, and others), until the first generators in Moldova and Transylvania are started. This will assure normal operating conditions for the system, but implies the allocation of additional hydrocarbons above and beyond the plan, and reduced production at the Dobrogea (CNE) and Oltenia (coal fired) zones, which have a surplus. However, from a technical and economic standpoint, this would be the optimum solution.
- 3. For the transition period, accept an excess in domestic technical consumption and lower operating reliability. This will avoid the construction of new installations and respect the provisions of production distribution by plants. However, this solution is technically not appropriate and is not recommendable.

A decision must be taken rapidly by the appropriate agencies in order to face the electric power situation for the upcoming period.

Another large problem is the 34 percent planned growth in the 1990 electric power with respect to 1985. This raises the problem of establishing strategies for covering consumption either through 110 kV distribution networks, increasing the number of 400/110 kV injection stations, or by developing the capacity of distribution networks, and together with this, reducing the number of 400/110 kV stations.

#### Conclusions

The following problems exist in the long range development of SEN electric power networks:

- 1. Establish a strategy for the 1986-1990 transition period;
- Assure the economic efficiency of projects in SEN networks for the stage after 1990, when the placement in operation of CNE's will achieve a balance among zones;
- 3. Develop SEN networks closely related to CNE's, and assure their reliable operation as well as the distribution of their power;
- 4. Judiciously develop 110 kV and distribution networks.

The following extremely important problems exist in addition:

Assure reliability in the supply of consumer zones and in the overall operation of the energy system;

Increase the efficiency of electric power networks by assuring minimal technical consumption without new investments;

Make judicious use of existing interconnections and those under construction, and expand interconnections in the above context;

Introduce new technologies to assure a better exploitation of interconnections (for instance by introducing direct current power transportation);

Develop systems for efficient management, automation, and protection with relays based on process computer technology;

Steadily improve the quality (reliability and efficiency) of SEN equipment and instruments. Assure the adoption of new types of products at the current level of world technology.

The above are an outline of the extremely large tasks that are facing us in completing the construction of an SEN equal to the present world conditions, which will assure a continuous supply of power at nominal parameters to all installations.

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**ECONOMY** 

YUGOSLAVIA

## BRIEFS

SHIP FOR SOVIET UNION--Pula--In the Uljanik Shipyard in Pula on Saturday, the ship "Sovyetskaya Nakhichevan," built for the Soviet customer "Sudo-import," was launched. It is a special ship intended to carry about 200 passengers, 30 freight cars, and up to 80 automobiles. The new vessel is powered by two diesel motors manufactured at Uljanik that give it a speed of 17 knots. This is the eighth in a series of ships that Uljanik is building for the Soviet customer, and the first of five planned for this year. [Text] [Zagreb VJESNIK in Serbo-Croatian 23 Mar 86 p 1] /8918

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POLITICS

GERMAN DEMOCRATIC REPUBLIC

#### POSSIBLE SOCIOPOLITICAL DESTABILIZATION DISCUSSED

East Berlin DEUTSCHE ZEITSCHRIFT FUER PHILOSOPHIE in German Vol 34 No 3, Mar 86 (signed to press 2 Dec 85) pp 193-200

[Article by Dr Hans-Juergen Trommer, of the department of Marxism-Leninism/Civics at the "Clara Zetkin" Pedgagogical College in Leipzig: "On Political and Social Stability in Developed Socialism"]

[Excerpt] This article represents the revised version of a contribution to the discussion carried on by the study group of the Sixth GDR Philosophy Congress.

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The conquest of government, the maintenance of government, the organization of government by the working class -- these are the first essential conditions, the means for developing the spirit and the objective of socialism, coupled with the resolute implementation of the requirements of the fundamental economic and social law. The social prejudices of bourgeois ideology against socialism in fact serve it badly, because it has long been recognized that bourgeois ideology "turns the relationship on its head, so that the end appears to be the means, the means the end."(12) Moreover, it transfers the "criterion" of end-means dialectic in imperialism--where profits are the supreme objective--to socialism--where the maintenance of government is the supreme objective. This is designed to deny the basic humanist features of real We describe stability first of all as a historic and class-like socialism. Its nature in imperialism is diametrically opposed to that in manifestation: socialism. In October 1917, Lenin indicated the antagonistic nature of this phenomenon when he contrasted the strength of the imperialist state to that of the socialist state and revealed the novel democratic nature of latter.(13)

Socialist democracy is primarily a means for managing the government and the economy. At the same time, socialist democracy is actually an independent value of socialism in the meaning "that it represents one aspect of the working people's affirmation of their wishes with respect to all issues vital to them. It is precisely its result that the social qualities of man develop in socialism. Without the development of a democracy which increasingly involves the working masses, it is therefore impossible for any progress to be

made by the socialist economy or any all-round evolution of man in the new society to occur."(14) In the political realm of socialism, too, the action of the masses must proceed with the merger between the objectification and self-realization of the individual. The "mechanism" of socialist democracy harbors unlimited potentials for the evolution of human strength which is a goal in itself (Marx). By his committed and conscious involvement in the settlement of social affairs, the socialist citizen is able to demonstrate his dignity—his free development turns into the condition of the free development of the community. This is the first field of the unity of humanism and politics in socialism.

From the viewpoint of revolutionary doctrine, it has been proposed to describe political stability as an essential inner quality of the development of socialism, enabling the working class--led by its Marxist-Leninist party and in alliance with the other working classes and strata--to more and more perfectly implement the strategy of the unity of economic and social policy. A second field of the unity of humanism and politics is revealed when socialist democracy is practiced as a means to the end of the implementation of the strategy of the unity of economic and social policy. This needs to be because the question is sometimes asked whether further investigated, the political stability of socialism will be achieved by the realization of the unity of economic and social policy or by the consciousness of the masses. It might seem as if there were rival approaches to the guarantee of socialism's political stability. The following comment appears ាលខ្លាំងស្រាស់ សា ខ្លាំង ស្រាស់ ខ្ The second second appropriate: The section bear is independent for the section of the section of

The experiences and analyses of socialist construction initially indicate that economic and social processes provide the strongest impetus to the development of the stability of socialism's political power. Egon Krenz has noted that it is typical for developments in the GDR since the Eighth SED Congress that "the meaning of socialism—to do everything possible for the benefit of the people, everything possible for human happiness—was made more evident than ever for every individual. Political stability, economic dynamism and the unity of economic and social policy—these are the cornerstones of this development."(15)

At a time when the social development of socialism interacts with many international processes—and, among others, establishes contacts also with the law of the uneven economic and political development of imperialism—, economic and social reverses may occur. In the long run, political stability is guaranteed by the party and state leading the working people toward revolutionary, expert and critical thoughts and action on the basis of our scientific social doctrine (in other words are not content with mere acceptance). Consequently, the unity of economic and social policy is not the sole foundation of the political stability of developed socialism. Other basic requirements are the consciousness and organization of the masses of and in this unity. At the same time, consciousness and organization also create the continuity of stability whenever the conditions for the realization of the main task change as the result of abrupt twists in international developments. This is impressively confirmed by the considerable rise in the GDR's performance in the changed conditions of the 1980's.

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The basic values of our society and the basic truths of our age in consciousness of the masses demonstrably represent the decisive substance of the political stability of socialism. The realization of this objective of politico-ideological work with the masses presumes an intimate and trustful relation between the communist party and the people, and in turn helps further consolidate this relation. The SED has always endeavored to meet Lenin's demand for "staying profoundly rooted in the life of the workers, know the life of the workers inside out and know how to unfailingly and at all times recognize the mood of the masses, their true concerns, needs thoughts." Lenin required governing communist parties "without a trace of false idealization to note the degree of mass consciousness and the strength of the influence of various prejudices and residues of the past" as well as "to gain the limitless trust of the mass by a comradely attitude and the careful satisfaction of its needs."(16) The crucial trust between party and is "carried" and strengthened by means of the perfection of socialist people democracy.

Relying on our interpretation of the political stability of socialism, it is now possible to describe in greater detail what is meant by saying with respect to developed socialism, that political stability is in the long run achievable only by social stability. At the same time we can now answer the question why a third field of the unity of humanism and politics emerges when we reflect on the social stability of socialism. Socialist stability is defined as a feature of socialist social conditions, which increasingly guarantees the all-round and steady evolution of the personality that, in turn, is a prerequisite for the integral development of society.

At the general level, socialist social conditions appear first as a class and social structure and social stability in the alliance of friendly classes strata which are deep in the objective process of mutual social adjustment by greater social development. At particular levels, socialist social conditions are revealed as lifestyle, and social stability is shown to be that quality of working and living conditions, which guarantees that the material and cultural needs of all members of society are increasingly satisfied all-round and constantly--as the condition and prerequisite for the prevalence of the socialist lifestyle. In developed socialism, stability includes not excludes dynamism (progress). Socialist progress as an attribute of socialist social stability determines the organization of developed socialism. social process of our society is dominated by the further revelation communities of interest and the reduction of significant social differences or by mutual social adjustment as the result of the progressive development of all socialist classes and strata. It is in the nature of this process to include features of the reproduction of some social differences. practical experiences gained in the organization of developed socialism in the GDR demonstrate that political stability is in the long run achievable only by social stability and social progress which is, in turn, based on the steady and dynamic growth of the economy.

As regards bourgeois interpretations of the social stability of imperialism, they range (in the FRG, for example) from the social democratic variant of "social consensus" by way of "social partnership" organized by a "social state

with a tightly knit social net" through the liberal concept of the "free market economy" to neoconservative ideas on an allegedly "new social issue" and a shift to other "approaches to social stability" by less of a "social In any case, we are confronted simply with different concepts regarding the preservation of the capitalist economic system, by means of which the attempt is made to integrate the proletariat. The social democratic as well as the Christian democratic variants feature the objective of "preserving social peace"--this is the basic consensus of all establishment We may therefore conclude that the "preservation of the parties in the FRG. social stability of society" in imperialism amounts in the final analysis to the consolidation of the social status quo, in other words to that of class The present sociopolitical consequences of imperialist ideology and the corresponding economic and social policy are the social degradation of The bourgeois definition of social the working masses, not social progress. political stability describes a field stability and incompatibility of humanism and politics in imperialism.

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In socialism, social and political stability stand in a qualitatively very different relationship to one another. That is why precise theoretical topicalization in Marxism-Leninism represents a precondition of successful socialist politics. The mastery of political and social mechanism is revealed as a constant demand on the theory and practice of social policy in the sense that sociopolitical measures produce socialist results. In the formula "political stability is achievable in the long run only by social stability and social progress; the latter, though, can be guaranteed only on the basis of steady and dynamic economic growth," political and social stability turn into neuralgic elements only if we use unduly narrow interpretations. The social stability of socialism is as little reducible to the social status quo or rising material prosperity as its political objective analogue to the political status quo.

Such ideological narrowing would provoke a fallacy by assuming that the political stability of socialism can, in the long run, be guaranteed only by The dubiousness of this proposition is revealed rising material prosperity. when we reverse it: If, due to some internal or external conditions, rising material prosperity could not be guaranteed to the usual extent, the political stability of socialism would be lost. SED party programs rely on the unabbreviated Marxist-Leninist social conception. Since 1971, SED party congresses and plenums, in particular, have started from the assumption that it is the meaning of socialism to guarantee the greatest possible prosperity and free all-round development of all members of society (Lenin). task is of a strategic nature, because it expresses a policy adequate to the basic economic law. Our experiences with regard to the implementation of the main task represent the basis for the steadily more perfect assimilation of the unity of economic and social development in all its aspects:

-- The priority of social development from the aspect of the objective and meaning of socialism;

-- The priority of economic development from the aspect of the material bases of socialist social development but always oriented to the objective of socialism;

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The unity of economic and social policy as a means to free the motive forces of social (economic and social) development in their most sintimate interaction.

By safeguarding full employment, popular prosperity, growth and stability (economic stability of growth, stability of the rhythm of production, stability of supplies, stability of consumer prices for essential commodities and services), we have provided coordinates/bases for the stability of our socialist society. The all-round and steady development of the personality as a condition of the free development of the community represents the formation adequate substance of this basis. These economic coordinates of social stability safeguard the dialectic unity of self-realization and objectification as the feature of a socialist society.

As to the unity of humanism and politics in the dialectic of the social and political stability of socialism, we may sum up as follows:

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Our experiences in the organization of developed socialism, in particular the dialectic of social and political stability, persuasively refute the assertion by bourgeois ideologues of the "eternal incompatibility between humanism and politics" as well as the doctrine of the alleged "instrumentalization and narrowing" of the original communist ideals in the course of the construction of real socialism. The political and social stability of socialism is equally permeated by the unity of humanism and politics. Humanism--the criterion of the political stability of socialism--is, on the one hand, the guarantor of the all-round and steady realization of the strategy of the unity of economic and social development by means of an adequate policy. This phenomenon embodies the unity of humanism and politics not only from the standpoint of the communist objective but also by the means of its On the other hand, the trustful relationship between the organization. Marxist-Leninist party and the people is a productive relationship. precondition and result is the democratic activism of the masses, based on consciousnesws and organization.

The popular masses are increasingly the subject of politics, of socialist democracy, are increasingly conscious of their strength and responsibilities under the leadership of the governing communist party, recognize democracy as a profoundly humanist value inherent in socialism. The politics of the social stability of socialism are humanist and political at one and the same time. On the one hand, it gradually abolishes all conditions "in which man is a debased, enslaved, abandoned and despised being"—insofar social stability is revealed as being humanist. On the other hand, such a social development can proceed only when the class interests of the proletariat prevail in the government—insofar social stability is revealed as political. Its prerequisite is the economic realm of necessity, where labor is defined by "external expediency." "Freedom in this field can consist only in the objectified person, the associated producers, rationally settling this, their

circulation with nature, bringing it under their common control instead of being dominated by it as if by a blind force; carrying it on with the least possible expenditure of strength and in conditions most suited and adequate to their human nature."(17) The proper organization of this realm of necessity by the active involvement of all is part of the SED's economic policy. The linkage of the achievements of the scientific-technological revolution with the benefits of socialism, the realization of the socioeconomic performance principle, the guarantee of full employment and dynamic growth rank as the current humanist tasks of economic policy, which assume and inspire social stability. From this viewpoint, humanism and politics are definitely compatible in socialism, more: Developed socialism is essentially defined precisely by this compatibility.

The successful development of our republic impressively demonstrates that we are increasingly able by our social policy to make socialist humanism prevail.

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12. K.Marx, "On the Jewish Question," in Collected Works, Vol 1, p 367.

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- 13. See V.I.Lenin, "Conclusion of the Speech on Peace. Second All-Russian Congress of the Soviets of Workers and Soldier Depuities," in Collected Works, Vol 26, p 246.
- 14. A.P.Butenko, "Contradictions in the Development of Socialism as a Social System,: SOWJETWISSENSCHAFT, Sociological Articles, No 2/1983, p 239.
- 15. GDR Constitutional and Legal Conference. E. Krenz, "Staat und Recht bei der Weiteren Entfaltung der Vorzuege und Triebkraefte der Sozialistischen Gesellschaft" [Government and the Law in the Further Development of the Benefits and Driving Forces of the Socialist Society], Berlin 1985, p.5.
- 16. V.I.Lenin, "On the Role and Tasks of the Labor Unions in the Conditions of the New Economic Policy," in Collected Works, Vol 33, pp 177f.

17. K.Marx, "Das Kapital," Vol 3, in Collected Works, Vol 25, p 828.

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[Report by Wladyslaw Wrzask: "The Party!s Participation in the Implementation of Economic Tasks"]

I was able to be a few and the representations of the second of the seco [Text] The tasks of the party organizations and echelons in implementing the national and voivodship annual plan for 1986, in light of how the 3-year plan was fulfilled, were discussed at the Voivodship Committee's (VC) meeting in

The meeting was conducted by the VC first secretary, Michal Niedzwiedz.

The high degree to which the 3-year plan was fulfilled -- average national indicators were frequently exceeded -- makes an excellent starting point for implementation of the tasks contained in the national annual plan and the voivodship plan for 1986. At the same time, as stated during the discussion, the situation for starting the tasks of the new 5-year plan is good.

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But satisfaction with good results must be accompanied by the awarenesss that many matters have not been fully settled. Hence the party's activities must concentrate -- it was stressed -- on greater management efficiency. A great deal still remains to be done in implementing the fuels-and-energy savings program. These programs cannot exist simply on paper. Good examples of a thrift program are the Railroad Rolling Stock Repair Shops in Pila, the Glass Works in Ujscie, and the MEBLOMOR Ship Fittings Factory in Czarnkow. In the opinion of those attending the meeting, attention should be given to improving the utilization of the existing manufacturing potential.

Many enterprises require complete modernization. Economic reform should stimulate and encourage enterprises to do this with their own resources.

A great deal of attention in the discussion was given to agriculture. problems relating to further growth in farm production must be reexamined. The functioning of farm-food processing was criticized. It is sufficient to say that Pila Voivodship is one of the leading producers of food in Poland. It sends over 40,000 tons of cattle for slaughter outside its own area each year.

Society expects a distinct increase in building-erection production which is the basis for housing construction. The present state and potential of building enterprises in Pila Voivodship is inadequate in relation to needs, said one those taking part in the discussion. New building technologies are needed and inexpensive construction materials must be produced.

The executive board's report, delivered by VC secretary Bogdan Kopec, discussed the implementation of tasks in the past 3-year plan and tasks for 1986 as they relate to the economy.

The following took part in the discussion: Bogdan Dymarek, Pila Voivode; Roman Wachowski, factory committee first secretary in the POLAM ZSO in Pila; Wieslaw Los, VC secretary; Barbara Mroczkowska, quality inspector in the Chodziez Porcelain and China Factories; Boleslaw Brzozowski, employee in SPOMASZ in FM&UPS in Wronki; Zenon Kornobis, factory committee first secretary in the ROFAMA Agricultural Machinery Factory in Rogozno; Gustaw Jaros, managing director of the Fiberboard and Chipboard Factories in Czarnkow; Piotr Switala, foreman in the Railroad Rolling Stock Repair Shops in Pila; Michal Karaniewicz, manager of the voivodship National Polish Bank branch in Pila; Tadeusz Lipiec, retiree from Zlotow; Wojciech Mlynkiewicz, chairman of the SPOLEM General Consumers' Cooperative voivodship board; and Franciszek Strugala, assistant manager in the Agriculture Construction Installation and Assembly Works Enterprise in Czarnkow.

Jelenia Gora on Education's Role

Warsaw TRYBUNA LUDU in Polish 17 Feb 86 p 2

[Report by Czeslaw Kubasik: "The Duties of the School and the Teachers"]

[Text] Referring to the resolutions of the PZPR CC 24th Plenum, the members of the voivodship party echelon at its meeting on 15 February in Jelenia Gora discussed the present and future problems of education, the party's work in this area, teachers' training and attitudes, the activities of youth organizations in schools, and educational facilities.

The meeting was chaired by Jerzy Golis, first secretary of the Voivodship Committee.

Duties which rest with teachers in a socialist school formed the main theme of discussion. The teaching profession requires an absolutely unequivocal stance, because the upbringing process is accomplished not only through words but also, and perhaps primarily, through the deeds of the teacher.

Referring to the increasing activity of youth organizations in schools, several of the discussants expressed their opinion on the subject of the attitudes of the young people. It was said that a large part of them accept the values of socialism, identify with the socialist homeland and link their future with it.

Referring to the PZPR draft program, the discussants said that it opens possibilities for a broad discussion in both the educational circles and among youth. It should start them thinking about the future, the 21st century, as it concerns their personal life and the fate of the nation and the state. With a Joseph

The executive board paper, "More Effective Implementation of the School's Teaching and Upbringing Tasks," was read by Boleslaw Plaza, VC secretary.

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The plenum was attended by Politburo member and CC secretary Tadeusz Porebski. In speaking at the conclusion of the meeting, he said that work in the school environment demands constant concern and daily activity and that it cannot be conducted casually. There are many matters in this field which must be settled, for example, preparation for the teaching profession, teacher training,, and popularization of teaching in the secondary schools. Now is the time, in the discussion preceding the 10th Congress, to give these matters the importance that is due them, the CC secretary said.

Koszalin Favors Stronger Socialist Education

Warsaw TRYBUNA LUDU in Polish 21 Feb 86 p 2

[Report by Eugeniusz Buczak: "Education Needs Help"]

[Text] The plenary meeting of the Voivodship Committee (VC), which was held on 20 February in Koszalin, was attended not only by members of the voivodship echelon, but also by a large group of persons active in the teaching profession and distinguuished teachers who are now retired.

It was not only the teachers who spoke of the need to enhance socialist upbringing in the schools. Persons active in the arts and in youth and educational organizations also spoke out. All of them are representatives of the upbringing vanguard, which was initiated and organized in 1984 by the Voivodship Council of the Patriotic Movement for National Rebirth. That, too, is why there is frequent mention of the need for joint, unified upbringing activity.

However, not everyone takes an active part in shaping the characters and knowledge of the school youth. Stanislawa Koniawko, party activist and teacher from Koszalin, called attention to this in saying that the party organizations in the schools frequently limit themselves to the meetings required by statute. In her opinion, all Primary Party Organizations should participate and decide on matters relating to upbringing of youth. It would also be well to popularize the initiative of the VC executive board in Koszalin, whose members frequently meet with students in the secondary schools. In lively discussions the youth become acquainted with the important problems of today's life in our country. It is this kind of activity which the party organizations could begin in the schools.

Because who is supposed to do this, asked the principal of School No. 7 in Koszalin, since many works of a patriotic and ideological nature have been deleted from the Polish language program. Edward Ryndak, a teacher from Piaski, complained that as a historian he has nothing from which to teach contemporary Polish history, because there is no textbook.

A teacher from Karlin, Lucja Klepuszowska, as well as other discussants, spoke of the need to regularly train and retrain the teachers themselves, not only to obtain better results in teaching but also to raise the prestige of the teaching profession, which has been somewhat damaged in recent years. Education classes in secondary schools and higher educational schools are needed, or, as was done in the Higher Engineering School in Koszalin, teaching semesters in the higher schools, for example, in engineering schools, have been added. In Koszalin Volvodship 456 teachers have had no teacher training.

Schooling in Koszalin, as was mentioned in the discussion, is in a difficult situation insofar as facilities are concerned. At present, 41 elementary schools are needed, 37 preschools, 3 children's homes, and 646 dwellings. In order to construct these buildings, 16 billion zlotys would have to be spent, and education in Koszalin has only 1.5 billion zlotys for this purpose for the entire 5 years. Some school buildings are built by the people themselves. Approximately 90 million zlotys have been collected by school assistance committees. The meeting was conducted by Eugeniusz Jakubaszek, first secretary of the VC.

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Warsaw TRYBUNA LUDU in Polish 22-23 Feb 86 p 2

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[Text] Tasks in consolidating the party politically and ideologically and the party's influence on the people in Leszno Voivodship were the subject of deliberations at the plenary meeting of the Voivodship Committee (VC) in Leszno on 21 February. Stanislaw Sawicki, VC first secretary, was chairman.

An honest assessment of the status of the party organization's ideological work in the workplaces and in the countryside, concrete proposals defining the most urgent ideological-upbringing tasks of the party in nonparty circles, and particularly among the young people, as presented during the plenary discussion, enhance the pre-Congress campaign materials of the entire voivodship party organization in Leszno.

Results of the party's political work are best measured through the personal input of party members, said Marian Olejniczak, first secretary of the factory committee in the Leszno Pump Factory.

Ryszard Hayn, member of the Leszno PZPR Town Committee, in emphasizing the problem of the ideological struggle at the present stage of the pre-Congress campaign, devoted his speech to problems of secular ceremonies—the lay influence on the community.

Hieronim Gorzny, rural teacher in Lipno, said that the program will not self-implement after it is approved by the 10th Party Congress. If we limit ourselves to discussions and do not begin to implement it immediately, we will lose a lot of time.

The suggestions made during the discussions were incorporated in the resolution passed by the plenum.

# Bielsko-Biala on Economic Plan The Beat of the State of t

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[Text] (PAP) The plenary meeting of the Bielsko-Biala Voivodship Committee (VC), held on 21 February, was devoted to an assessment of the fulfillment of socioeconomic tasks in 1985 and a discussion of the voivodship party organization's courses of action relating to the economy.

As shown in the introductory paper, sold production by organizations in the public sector in this voivodship amounted to almost 398 billion zlotys, which was 3.9 percent higher than in 1984 with lower employment figures. These figures would have been even better had it not been for energy problems during the first quarter of 1985. The administrative managements and the party organizations in the enterprises mobilized the workforces to make up the shortfalls in production that occurred. For example, the workforce of the Compact Car Factory, where losses in the first quarter amounted to 1.6 billion zlotys, had already made up these losses at the turn of the third and fourth quarters and fulfilled the year's quota with a surplus. Other plants, including the "Kety" Light Metals Works in Kety, the Iron Foundry in Wegierska Gorka, and RYTEX ZPW, were not able to do so.

In developing new courses of action, the voivodship party organization assumed that the factory party organizations will be further inspired to improve management efficiency, reduce manufacturing costs, and save raw materials and energy.

The meeting was attended by Politburo member and CC secretary, Marian Wozniak, and the director of the CC General Affairs Department, Antoni Gorny.

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POLITICS

ROMANIA

#### BRIEFS

SPECULATION IN CIGARETTES—Officially, Marcela Gabriela Chitescu tended bar in the "Bucegi" restaurant. Unofficially—and very discreetly—she had another profession during working hours: speculation. She bought and resold, on the black market, hundreds and hundreds of packs of cigarettes. The militia discovered in her locker some 28 cartons which were to be "marketed". Since the Penal Code considers this to be a violation of the law, the lover of illicit income was taken into custody and brought to trial. The court pronounced the sentence: 2 years in prison. This illustrates the intransigence of society toward dishonesty and the reaping of profits without working for them—attitudes which, implacably, end up before the law courts.

[Excerpts] [Bucharest INFORMATIA BUCURESTIULUI in Romanian 14 Mar 86 p 2]

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POLITICS
YUGOSLAVIA

#### BOOK ON KOSOVO WWII FIGHTERS CRITICIZED

LD072328 Belgrade TANJUG Domestic Service in Serbo-Croatian 1652 GMT 7 Mar 86

[Text] Pristina. 7 Mar (TANJUG)--An edition published by the Kosovo History Institute, "In the Fire of Revolution" ["U Vatri Revolucije"] with biographies of fighters from this republic, has not, in its entirety, achieved its objective. Individual books contain unacceptable explanations and interpretations of personalities and events from our war and revolution and one or two arbitrary or even untrue passages give a distorted picture about them. was said at today's session of the Kosovo LC Provincial Committee's Commission for the History of the League of Communists. Milutin Folic pointed out in his introductory remarks that a number of fighters who had fallen in battle are alleged to have joined partisan units which at that time did not exist. is also terminological imprecision and ambiguity which may cause confusion. Many biographies, instead of discussing the fighter and what he did, concentrate more on the origin and roots of his family. On the other hand, Folic observed, the biographies avoid writing about the Ballists [members of Balli Kombetar, a fascist organization collaborating with the Nazis] and their organizations in Kosovo, although it is known that from as early as 1942 Balli Kombetar was actively operating in this region. Kosovo historiography in recent years has been denying this, which is untenable from a scientific point of view. The largest number of fighters covered in this edition are from those parts of Kosovo where the National Liberation War never really got off the ground, at least not in the first years of the war, said Folic.

The debate also pointed up some weaknesses in the books published in this edition but remarks and even polemical voices were heard concerning information of the physiognomy of the edition entitled "In the Fire of Revolution" composed by the secretariat of the Commission for the History of the Kosovo LC Provincial Committee. This refers, in particular, to the remark about the avoidance of the term "Ballist" in the biographies which is replaced by others such as "counterrevolutionaries" and "SS traitors" as well as to the assessment of individuals who first joined the ranks of SS units or other quisling formations and then the partisans. In addition, the warning was also made that by attempting to alter history, there is a desire to negate the historical past and the participation of Albanians in the National Liberation War. On the other hand, it was noted, in the writing of biographies of Kosovo fighters there is no way that a balance in terms of the equal treatment of nations can be found and the participation of the Albanian nationality in

the National Liberation War must not be overstated. Branislav Skembarevic, the chairman of this commission also pointed to these excesses and cited the example of the case of Glogovac, where, on the memorial to the fighters of the region, there was not one name of a fighter of Serb or Montenegrin nationality. He also sought to clarify cases of the representativeness of individuals in this edition, about whom it is known that initially they belonged to enemy formations, and later went over to the partisans. Not all these cases can be justified "as is done in accordance with the task," Skembarevic observed.

It was concluded that information in this edition by the Institute for the History of the Kosovo LC, with the observations and suggestions made at today's debate, would be sent to the Provincial Board of Kosovo SUBNOR [Federation of Veterans' Associations of Yugoslavia], which will also make a final decision on the republishing of books in this edition.

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BACKGROUND OF PETITION FROM KOSOVO POLJE TRACED

Belgrade NEDELJNE INFORMATIVNE NOVINE in Serbo-Croatian 9 Mar 86 pp 20-23

[Article and interviews by Aleksandar Tijanic: "Announcement of a New Exodus"]

[Text] The long lines in front of the bread bakeries in Pristina whose shelves are empty and the confusion on the eve of the voting there for "Eurovision Song" provide a metaphor of Kosovo reality located somewhere between tinsel and patches, between applause and whistling. During that time, by a nice coincidence, "Skipetar," a play by Ljubisa Ristic (born in Kosovo) came to Belgrade, and 95 Serbs and Montenegrins (also born in Kosovo) came to Belgrade as well asking to speak with officials of the Federal Assembly. However, one of them, Ljubinko Miric, president of the local chapter of the Socialist Alliance in the village Batusi, was unhappy that their entry into the Assembly was filmed by television, since on the job next day not a single one of the Albanians who had previously been his workfellows and comrades was speaking to him.

"One workfellow of mine, who was together with me in the delegation," Miric said, "was refused his daily wage by the boss, which is as it should be, but in addition he also wrote him up for not coming to work, and he wrote it up only in the Albanian language."

Sixty Thousand...

The fact that those who are driving the Serbs and Montenegrins are still achieving better results with their efforts than those who are trying to keep them has made Kosovo today a political zoo with lions, eagles, and rabbits, but the natural equilibrium is upset by the unusually large number of chameleons and hyenas. Unavoidable elements in the already very serious political analysis have been emerging on the surface of Kosovo reality as a kind of statement of the situation in operational terms. It is notable that an ever larger number of petitions and grievances from individuals and group delegations have been paying visits to provincial institutions and addressing authorities in Belgrade directly. At the same time, according to many of the danger signs, the "critical mass" of resentment of the Serbs and Montenegrins is approaching its culmination point. In such a situation the political option that contains the better part of wisdom is to explore why such largescale support is being given to every spontaneous action and why there is

growing reserve toward any sort of established organization regardless of whether it is a judicial, government, or political institution, but an exploration in search of those people who represent the initial spark that rallies people around a particular action.

Thanks to the awareness that has been created concerning their "own threatened condition and the lack of a sense of security in their native place," it was possible in a short time to bring together delegates from 42 Kosovo villages, or, as the authors of the Kosovo Polje petition asserted, to gather up to this point "about 60,000 signatures." It is notable that the number of signers has been growing by geometric progression on the wave of the conviction created that only "an authentic popular movement can save Kosovo in the situation when the politicians are helpless." Almost without exception the people we talked to emphasized the visit to the Assembly and the fate of the petition as a litmus test and basis for drawing conclusions about "Kosovo's destiny" in future.

I was to hear this dialogue on several occasions: "Do you have any signatures?" "I will have. Today I was in Suvi Dol!" Such a situation is causing "ethnic ranks" to be closed, evening out social and other differences, turning all the Serb and Montenegrin settlements in Kosovo into a "global Serbian village" which, according to the general assertion, will no longer allow individual moves, since in the present situation the "loss of any Serb or Montenegrin represents a most direct danger to this community because of the possibility of dropping below the lower numerical limit of security." That is why the ethnically pure enclaves are defending themselves so obstinately, striving to "leach out" other nationalities, which they put this way: "Now that we find ourselves on a reservation, we want to live like Indians and to keep the cowboys out."

#### A Measure of Success

The problem has also grown in the meantime, since even in traditional terms our strategic policy has not held on as well as our own psychological dimension. The truth of this can be seen by solving the riddle: Can a policy be called successful when, at least as far as the exodus is concerned, it persistently yields bad results?

Since by definition the masses are in constant movement and gravitate toward formations whose character cannot always be predicted, ethnic leaders have sprung up spontaneously to serve as "crystals in the mass" of Serbs and Montenegrins in Kosovo, who have considerable social power, but do not have public responsibility, since they are operating from deep in the shadows. One is well aware of the principle derived from social and natural laws. If formal organizations are not doing a good job, then that kind of situation is made to order for informal organizations, especially since a certain number of Serbian and Montenegrin leaders have lost their credibility.

Kosovo Polje, which is where two of the petitions with a large number of signatures came from, seems to have become a kind of "Serbian Jerusalem" from which many things in Kosovo are initiated through informal channels and indirect influence and indeed even on the principle of imitation. The people we

talked to with the greatest discretion say that there is no illegal organization at all, since "we know that that kind of organization would be against the law"; however, "we take advantage of our constitutional right to complain as a group to the legal government institutions." They interpret the great response their actions have had by saying that the broad masses of Serbs and Montenegrins in Kosovo have become aware of the "truth about the fact that in this case we are dealing with high treason and surrender of state territory into the hands of enemies, thereby fulfilling Yugoslavia's obligations assumed in the Buje decisions." This assertion is on the same order of absurdity as the assertion of the Irredenta that Kosovo "has always belonged to Albania."

The answer to the question of how it was possible that the petition was not offered to a single veteran from Kosovo living in Belgrade to sign was that they felt that the veterans "had taken care of themselves and their families quite well, and we did not want to come into contact with them. Only after their meeting on 12 December, when the veterans 'said all kinds of things' to the officials, did we see that there are people among them who support our position."

# A Nurturing of Radicalism

There are few external signs of nervousness in Kosovo, if one does not count the things we have mentioned, but still there are many internal gushers of emotion, anger, and dissatisfaction which could bring about fission if taken together. That is why the situation is truly right for "nurturing" radicalism of any kind. When you ask whether they are aware of the responsibility they are taking upon themselves, the informal leaders (some of them have in the meantime become media stars) might sum up their answers in the views of one of them as follows:

"Had I known that it would be like this, I never would have gotten involved in that petition. People come to see me, they complain, they ask questions, they think there is some formidable power behind us. I have found myself in a very awkward position. People expect final answers from us, but, believe me, I would leave Kosovo tomorrow, but I dare not at this point. If we who started the petition leave, that will be a signal for a general exodus."

The "general exodus" has already been announced. We have to anticipate that because of the announcements that have been made, as soon as the weather gets warm, some Serb village, in order to show that its demands were justified and serious, will flee in a body ("to Serbia or to any state which wants to accept us"). This would be the tragic result of the general politicization which has prevailed in recent years in Kosovo, just as it did in the ancient states.

[Box, pp 20-21]

Interview With Boza Markovic: We Are All Going in April

Boza Markovic (age 86) lives with one son and six grandchildren in the village of Batusi, some 15 km or so from Pristina, in a large house alongside 10 hectares of land, and he has lived there since befor the war. Old Boza was in

the delegation of 50 from his neighborhood who on 25 February went to Belgrade to talk to representatives of the Serbian LC Central Committee. A few peasants from here also went to the Federal Assembly a week later along with the well-known "100-member" delegation of the federal Assembly a week later along with the

[Question] Grandfather Boza, Batusi has about 700 inhabitans and 80 houses, mainly Serbs. How many Albanians does it have?

[Answer] I do not count them at all! There are four families. Until recently we got along with two who came 13 years ago. Now two new ones have come and built houses, although the inspectorate prohibited construction because of the land consolidation.

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[Question] How did they manage to get land?

[Answer] Well, our peasants sold it to them.

[Question] Why is it a problem, then, if they sold it?

[Answer] Because it was a forced sale. Like it or not, you have to sell. Now these Albanians who are the old settlers are going around with some strangers and offering foreign exchange to purchase houses and land. They are building the houses so that the village is blocked off on the east, the north, and the south.

[Question] What do you mean "blocked off"? I don't suppose they build their houses in the middle of the road?

[Answer] They build beside the road, so that we cannot send our children to Pristina to go to school, although this opstina comes under its jurisdiction, but rather they go to Lipljan, since the villages in that direction are Serb villages, and the road is open. We were unable to go on escorting the children and waiting for them.

[Question] We just arrived by the road without any sort of problems arrived by

[Answer] You can pass in the daytime, but at night I do not even leave the house, since they are waiting for you to come to the bait like hunters.

[Question] Has anyone in this village been murdered or seriously injured?

[Answer] Not yet, but there have been six attempted rapes and one rape of a little 8-year-old girl.

[Question] Here in the village?

[Answer] No, it happened in Pristina, but the little girl is from this village. They say that the young boy who raped her is crazy. If he is crazy, then why doesn't he rape girls from his own environment and nationality, but only a Serbian girl? My two granddaughters were about to be raped on the road in a nearby Albanian village Donje Dobrevo. But when one householder saw that,

and he deserves all the credit, even though he is a Skipetar, and there are good ones among them, he took the children under his protection and brought them to my house, but he did not want to come into the yard. How can I say of him that he is bad? By no means. What I feel is the respect of one human being for another.

[Question] What did you specifically demand in your grievances in Belgrade?

[Answer] We demanded that our lives be secure as it is for anyone in Yugoslavia, and that those four families move out. But there won't be any moving out of individuals, but in April the entire village is to go. Just as we all live together here, we will also live together there.

[Question] Where is that "there"?

[Answer] In Serbia. You wanted me to say it, I will say it.

[Question] But this is Serbia here as well?

[Answer] No; it isn't:

[Question] Do you think that it is normal for there to be settlements where there are only Serbs or only Albanians living?

[Answer] It is not normal. But they are creating this kind of situation. One fellow moved in here at night last fall and the next morning he unfurled an Albanian flag out the window. What does that mean? If the politicians want to stop the exodus, they have to issue an order that not a single Serb can sell his property to an Albanian, but only among us Serbs, and that Albanians cannot purchase property in Serbian villages. I am not afraid for myself, I will not be here long, but I want my great grandchildren to live in peace.

[Question] How did the local people come on the idea of going to Belgrade?

[Answer] The entire village agreed in a conference that no answers could be obtained from the authorities here in Kosovo and therefore we went to Belgrade in search of our rights. We did not rebel, we did not demonstrate like they do, we did not cause any damage or alarm, we simply demanded that we be able to live in peace. We gave the commission that came from Belgrade 5 days later a period of 10 days to move out all four houses, but these politicians here say that they can only move out two, and that will be in 2 months. If they do nothing, we are going to leave everything without selling it, the buildings, the livestock, and the property, we will take our children by the hand, and we will leave. I guess that then you will believe it. And this was all done to us by that Bora Mirkovic who fled in the night and moved in an Albanian, and the latter flew the flag in the morning.

[Question] Perhaps it was a holiday?

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[Answer] Absolutely not! What it said was "I have arrived, and I have won." The law had better not allow us to try that fellow Mirkovic, who is now in Prokuplje, he would fare worse than Jesus!

[Box, pp 22-23]

Interview With Miroslav Solevic: I Know the Core of the Irredenta

Miroslav Solevic (age 38), a marketing specialist who is the chairman of the LC Action Conference of the 17th Local Community, which is inhabited exclusively by Serbs, has been living in Kosovo Polje since 1971.

[Question] What drove you to go to the SFRY Assembly?

[Answer] What I wanted was for us at the grass roots to express our opinion, and in that I think we were successful.

[Question] Couldn't that have been done here?

[Answer] Yes. I have been saying this since 1981 at all political gatherings, but there were no results.

[Question] What in your opinion is the political situation in Kosovo today as compared to 1981?

[Answer] Worse. I judge this by the number of Serbs and Montenegrins who have moved out. The bureaucratic-statist forces colored with irredentism are trying to give the impression that they represent the entire Albanian nationality. People like that in positions of responsibility were not removed from office even after 1981. I know that there are not good and bad nationalities, but only good and bad policies. But the first petition from here, back in 1982, managed to gather only 79 signatures. This second one in late 1985 gathered more than 2,000 in only a week, which means that a few years ago people still had confidence in the organized socialist forces, but now they themselves are turning to other methods.

[Question] What are the reasons why the Serbs and Montenegrins from 42 villages have now decided to travel to Belgrade?

[Answer] Just a day or 2 before my departure a group of people came to me and asked whether I was ready to go to the Assembly; I answered that I was ready at any time to complain to any legal authority in this country. If people had been informed earlier about this trip—since the news leaked out that a group of Albanian delegates were preparing amendments to Assembly resolutions concerning Kosovo, there would not have been a single Serbian or Montenegrin settlement that would not have sent its delegates. So, the number of 42 settlements is low.

[Question] I have the impression that Kosovo Polje is slowly becoming a kind of epicenter of events?

[Answer] People view Kosovo Polje as the center, since there is a sizable concentration of Serbian inhabitants here; there are 5,000 workers here working in 25 OOUR's, there is a strong Serbian potential in terms of personnel, there are 6 doctors of science, and people believe that they should do what is done in Kosovo Polje in their own places.

[Question] Was a connection made in the Assembly between the October 1985 petition and the delegation in February 1986?

[Answer] Only one of the speakers mentioned that, although there are no connections between them except, of course, causal connections.

[Question] In general, how real is the force of Serbian and Montenegrin nationalism in Kosovo?

[Answer] Certain circles here are launching the thesis about strong Serbian nationalism in Kosovo. That is a pro-Irredenta position. Such nationalism does actually exist, but it has been aroused, it is a consequence. One should always first remove the cause and then the consequence. If someone wishes to compare the strength and degree of organization of Serbian and Montenegrin nationalism with Albanian nationalism, it should be measured by the number of Albanians who have moved out of Kosovo and gone to Albania in the face of that kind of nationalism.

[Question] That system of measurement is not correct. Presumably, we should look at the Albanians moving out of other regions of Yugoslavia and coming to Kosovo?

[Answer] We were talking about nationalism only in Kosovo. Let me add only that for me the most dangerous nationalism is the one we are not fighting. An intelligent general knows that still he must first beat the main enemy forces, and in this case that is Albanian nationalism.

[Question] You did not sign the petition, but what do you think about its contents?

[Answer] It is a consequence of relations in Kosovo. Some of its arguments are unacceptable, but if the demands on the rest of the list were met, the situation in Kosovo would be considerably better.

[Question] Why are the Serbs and Montenegrins resorting more and more frequently to petitions and trips to Belgrade?

[Answer] Because the authorities in Kosovo are not dealing with the demands of the Serbs and Montenegrins.

[Question] What is the specific benefit from these trips?

[Answer] It informs the broader Yugoslav public from the grass roots. If, say, the text of what we said in the Assembly were published, and 95 percent of what was said faithfully portrayed the situation, the public would get the right picture of the situation here.

[Question] Do you feel that there could be a deterioration of the situation and that the announced large-scale emigration of Serbs and Montenegrins could occur?

[Answer] We warned in the Assembly of two dangerous tendencies which we have noted in the Serbs and Montenegrins in Kosovo. First, an attitude has been formed, either we will all live here, or we will all move out in one single column. Second, people have become convinced that even more serious upheavals in Kosovo should not be precluded, since people are talking more and more frequently about self-sacrifice so that the others might live in concord.

[Question] Do you note tendencies in this situation toward creation of "eth-nic leaders" who work from behind the scenes?

[Answer] For the present, I have not noticed that, but it will inevitably occur because a good many Serbian and Montenegrin officials in Kosovo have been too silent on purely careerist grounds.

[Question] What would you do in their place?

[Answer] I would break up the core of the Irredenta, and half of the problem would be solved.

[Question] Do you really know who makes up the core of the Irredenta?

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[Answer] Everyone in Kosovo knows it.

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West Berlin IWE TAGESDIENST in German 8 Mar 86 p 3

[Article datelined IWE Berlin, 8 Mar 86: "Things Have Gotten Quieter in the Church Youth Work"]

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[Text] As the provincial youth pastor for the Evangelical Lutheran Church of Mecklenburg, Johannes Lohmann, asserted, things have "generally gotten a bit quieter" in the evangelical church's youth work in the GDR. Autumn of 1983 was a big turning point. He said that the deployment and counterdeployment of missiles in Europe had robbed many young people of the energy and desire to remain actively engaged in and demonstrate for the peace question. There was "as it were, a year of mourning." Lohmann gave a very positive assessment of this, for it led "gradually to self-assessment, to the question of the identity not of the individual alone, but also of the group, the church, and of this society as a whole." In many places, he said, he had perceived a readiness to bind one's self more intensely and actively to the church and the congregation, insofar as the church and congregation were prepared not simply to accept the young people with open arms, but were also ready to yield their own positions and accommodate the young people.

As the MECKLENBURGISCHE KIRCHENZEITUNG reported, the church leadership in Schwerin had approved the formation of a new peace work group consisting of 13 members for the provincial church. Eight members are delegated by church peace groups. In addition, one representative is from the provincial youth pastoral office, one from the office for community service, one from the senior church council, and two from the synod. The new committee is supposed to work closely with extant peace groups.

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